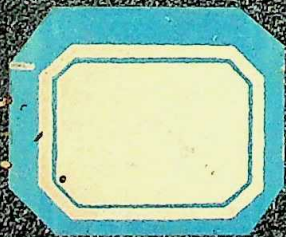
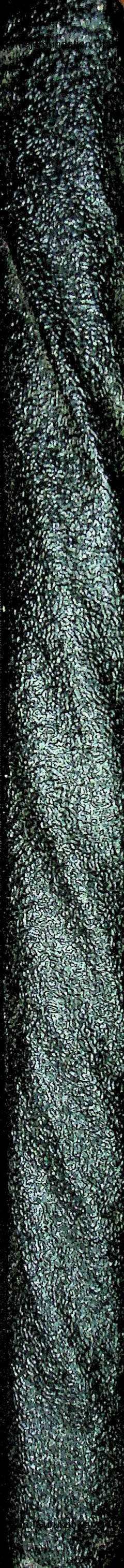


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# THE JOURNAL OF AYURVEDA

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## The Year Out

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With the current issue, the Journal of Ayurveda enters into its 9th year of existence after completing the eighth. The year under review has been a momentous one in more respects than one and it is a wonder that the Journal has been spared to appear once again before the public with a promise to serve them for yet another year.

The year 1931-32 has been most unproductive, so far the question of progress in things medical is concerned. Depression, loss and economic distress are writ large everywhere in every undertaking and we have had our share of the struggle in the fullest sense, and although have somehow scraped through the ordeal and hope to serve our constituents for another year, we still have the greatest of misgivings as to our success. We will, nevertheless, try our best to uphold the banner of Indian Medical Science, but in the state of affairs now obtaining in India, it is unsafe to predict any amount of success in our endeavours.

Journalism now-a-days is not what it was even in 1931 and what with the increased rate in postal charges, price of paper, enhanced and extended income tax and what with new censorship of Press and newspapers and new customs duty, the position of Press and Periodicals has become quite unenviable. It has become further complicated by the acute economic distress of the public as well as that of the big trades-firms and manufacturers. We businessmen are not very much pessimistic; on the



contrary, we are always optimistic and as such, we expected to see better days after June last on the expiry of the last ordinances. Our hopes have been of course illusory, the ordinances having been reenacted. Moreover, it is now clear that the ordinances will be made laws, so that the present struggle is to go on for how long we are unable to surmise. Neither the Secretary of state nor the Government of India is willing to make peace with the Congress and there is also not the least indication on the part of the latter to sue for peace. The Government is determined to crush the Congress unless it submits completely to its authority while the Congress is not ready to submit to the authority of the Government unless their demands, whatever these may be, are met with and fulfilled.

Whatever might be the respective motives of the belligerent parties, there is not the least doubt that the sufferings of the country would gradually increase with the progress of time and as there is no indication of any peace move from either side, people are gradually becoming restive and business in the country is going every day from bad to worse and it is apprehended that should this condition be allowed to stay for sometime more, many business concerns will have to close their doors. There is no lack of such an indication when we hear of the recent liquidation of Messrs. Thacker, Spink & Co. Ltd., one of the leading publicity firms of India. When we review the present condition from every point of view, there seems to be no ray of hope anywhere in the near future by the side of further despair and gloom.

As for Ayurveda, although a few new institutions and hospitals have been started during the year yet it has not made any real progress, so to speak, like other departments of Science. We are, however, glad to inform our readers that attempts to spread and popularise Ayurveda among the mass are being persistently made.



by its votaries and the present difficult condition does not in any way benumb their spirit. We have already published the reports of several hospitals including those of Kottapatam L. F. Dispensary and Benares Hindu University Ayurvedic Hospitals. We have also published a detailed report of Andhra Ayurveda Visva Vidyalyaya College and that of Dayanand Ayurvedic College, Lahore. It is refreshing to note in this connection that we have been presented with newer ideals and new interpretation of Ayurveda by the Principal of the former College in his address on the occasion of the first anniversary of the newly established College. We congratulate the learned Principal for his broad outlook and newer interpretation of Ayurvedic principles. We congratulate him further for the promise he has made to re-write text books on Indian Medicine according to methods already explained and introduced by him. We hope the College will have a successful career under the able guidance of its talented Principal.

We take this opportunity to inform our readers that the jigsaw puzzle of selecting a Principal for the local Jaminibhusan Astanga Ayurvedic College has been very ingeniously shelved and the institution is now going on without a principal in the true sense. It is also gratifying to mention here that Mahamahopadhyay Gananath Sen, M.A., L.M.S., the late Principal of the College, has himself opened a Post-graduate Ayurvedic College at his Kalpataru Palace and christened it after his father. He is himself its Dean and has been able to enlist the co-operation of many eminent medical men of all schools for the cause of the new College. We pray fervently for its long life and good career.

The much talked-of Drug's Enquiry Committee Report was published long ago but we have not heard of any action taken upon same since. Perhaps the reason is economic, as has been always the case with other important public works. It would have been better if



the enquiry did not take place at all, so that, so much worry and loss would have been spared.

We are glad that the All-India Medical Bill did not come to the Assembly for discussion, due to, we understand, strong public opinion against some of its clauses. However, instead of shelving the bill *sine die*, it would have been more graceful to amend the bill according to the proposal of the All-India Medical Association and All India Medical Licentiates' Association and then enact it as law. We should now console ourselves with the adage "Better late than never."

Herewith we beg to convey to our readers our sincerest thanks for bearing with us for yet another year inspite of our shortcomings and pitfalls which are but unavoidable at these times. We are also sorry to record here that we have lost a few of our old subscribers and well-wishers of Ayurveda due to the present political trouble. We only pray to the Almighty that they may soon be released and join us as before. May He also help us to perform our duty for the current year and may the clouds of despair and disappointment that now shrouds India clear off soon

H. N. C.



## Original Articles

### THE PRINCIPLES OF AYURVEDA

BY

DR. H. N. CHATTERJEE, M. A., CALCUTTA.

#### *The theory of Panchabhutas.*

Medicine requires some preliminary fundamental knowledge of matter and its attributes, biology, etc. and the origination of Ayurveda had developed theories of evolution of matter and life in their own way, a knowledge of which is necessary to understand the principles of Ayurveda. One more important feature of the sciences of the ancient Hindus is that they are closely inter-related to each other and Philosophy, Physics and Biology are just continuations of one and the same science. Such a correlation must occur in modern sciences and I hope we are approaching that.

The great scientists of India who studied the evolution of matter and energy with special reference to soul and its relation to God were Maharishis or ancient sages and they worked it out for Nirvana or emancipation of the soul. These ideas were incorporated in various works which are called Sastras which, of course, include the literature which grew around them afterwards. The sastras are at times termed the Darsanas.

- They are :—
1. Sankhya Philosophy founded by Kapila.
  2. Yoga Philosophy by Patanjali.
  3. Purva Mimamsa by Jaimini.
  4. Uttara Mimamsa or Brahma sutras  
by Badarayana.
  5. Nyaya Philosophy by Gautama.
  6. Vaiseshika Philosophy by Kanada.

There is not much difference between Sankhya and Yoga Philosophies except that the latter accepts a supreme Soul or God and prescribes some vigorous ascetic practices for the attainment of Nirvana. Their conception of evolution of matter and life are the same with which we are concerned in the present article.



Purva mimamsa is mainly intended to support the authority of the Vedas and to maintain their rituals.

Uttara mimamsa is based on Upanishads. It supports and enforces the religious doctrines of the Vedas. Its doctrine is montheistic and is as decided as that of Schiller or Hegel. "All things visible or invisible are only forms of Eternal Essence. The basis is a pure pantheism. In its later development, this system denied the existence of matter or material forms of objective realities. "Visible things are only manifestations a kind of mirage called Maya".

Nyaya cannot be strictly termed a philosophy but it is a treatise on logic or Tarka as that of Aristotle.

Vaiseshika Philosophy is a treatise on Physics. It deals with the categories and properties of matter and with the evolution of the universe which it attributes to the qualities and vibrations of primitive atoms.

For convenience, their views can be classified as :—

1. The Vedanta system.
2. Nyaya-Vaiseshika system.
3. Sankhya-Patanjali system.

#### THE VEDANTA SYSTEM.

In the Sankhya system, we have a regular line of argument, as their precepts depended on Pratyaksha or Perception and Anumana or inference than Sabda or right affirmation (Īst. Karika). But vedantists gave the greatest importance to Aptavakya (here *veda*) and attributed a secondary importance to Perception and Inference. But Badarayana gives the meaning of revelation or Sruti to Pratyaksha and Smriti to Anumana or inference. So this system entirely depends on Vedas as its authority. The only weak link in their chain of argument is that Vedas want no proof, want no support (Pramanya nirakshepam).

Brahma Sutras of Badarayana is the work from which this system has developed but the seeds of all philosophies can be traced to Upanishads. These might have been composed in the sutra period but to fix definitely the time of that period is rather difficult. If B. G. Tilak's astronomical evidence is accepted, it would take us far back.

According to this system, the only real existence in the beginning is Brahma. He is defined in Brahma sutras as "That omniscient, omnipotent cause from which proceed the origin, subsi-



stence and dissolution of the world, which world is differentiated by names and forms and contains many agents and enjoyers and is the abode of fruits and effects, caused by former actions, these fruits having their definite places, times and causes and the nature of whose arrangement cannot be conceived by the mind, that cause is Brahman". Rigveda considers that "All beings are only one-fourth of Brahman," and in Chandhyogya Upanishad, Brahman is defined as Tajjalan.

From this the whole universe is evolved. "Just as the spider by means of its thread goes forth from itself, as from the fire the tiny sparks fly out, so from this Brahman all the spirits of life spring forth, all worlds, all living things, all gods" (Manduka Upanishad). The whole universe is only his manifestation and it is unreal. The existence of the world is only real until we realise the true nature of things. This is Avidya. The entire complex of phenomenal existence is considered to be true so long as the knowledge of the self has not arisen, just as the phantoms of a dream are considered to be true until the sleeper wakes, because the Brahman is one, never changing, never in contact with anything, devoid of all form, eternally pure and intelligent." From the immaterial Brahman, the material but unreal world arises. Brahman is the Karana and the universe is Karya. We see that Karana and Karya are not different and Karya is already potent in Karana.

#### EVOLUTION.

"In the beginning there is only that one (Tad Brahma). It exists as a dark undulation living in a shell, out of which by his will that one was first born as kama or "manas" (Rig. X 129).

"Prajapati begets the primeval waters and issues from them as a golden egg" (121). So the universe is created as a separate entity and the Atman entered into it. Sankara maintains that the universe is created as a concession to the faculty of understanding, so their assertion is not to be entirely rejected and the soul pervades the universe to the finger tips, as the sword occupies the whole sheath. "Alone existing" was this in the beginning, one only without a second. It proposed, "I will become many, will propagate myself, thereupon it created heat. From heat, water was born, from water Annam." The divinity proposed, "I will now enter these three." Chanda Up. Chap. 6.



The oldest element according to Upanishads was water. Later we get ether. In Brihad Aranyaka Upanishad and Chandhyogya Upanishad, three elements only are mentioned. In Aitreya Upanishad, the five elements are first put forward.

#### BUDDHI AND MANAS

There is no differentiation of Buddhi, Ahankara and Manas and all come under the same category. Their origin is narrated in Brihad Aranyaka Upanishad thus : "when Atma in the form of a being was in the universe and found none else, he said—it is I and then the consciousness of reality began." The term Ahankara is first used in Sveta Upanishad, the Prasna Upanishad and in Maitreya Upanishad. (Manduka Upanishad): "From Atma originates Prana, Manas and Indriyas".

"Manas, Prana, Vac (speech) are the subtle products of Annam, Apas, Tejas."

#### INDRIYAS

In Brihad and Chanda Upanishads, the word Indriya is used in the sense of force. But in Kathopanishad Indriyas are organs. In older texts, these organs are called Pranas. "Therefore they are not voice, eye, ear, etc., but pranas, for prana is all of them."

As to the number of organs, there is no coincidence. In Brihad and Chanda Upanishads, four organs *i.e.* vac, eye, ear and manas are mentioned. Later on, in Kenopanishad, breath is added. At the end of Brihad Upanishad, Twak, Vijnana and Hridayam are also included. In Manduka Upanishad, up to 7 organs and in Sveta Upanishad, 9 organs are enumerated.

The Juana Indriyas are termed grahas as the soul is fettered to the world by these. In Satapatha Brahmana, we have 16 organs as Lomah, Twach, Asrij, Medas, Mamsam, Snayu, Asthi, Majja. But almost all of these come under Dhatus in the medical books. Classification is more distinct in Prasna upanishad, where in the earlier portion, the dravyas are enumerated as :—1. Prana, 2. Sraddha, 3. five elements, 4—8. Indriyas, 9. Manas, 10. Annam, 11. Viryam, 12. Tapas, 13. Mantras, 14. Karmah, 15. Lokas, 16. Namam. Later on we have (1) five elements, (2) five tanmatras, (3) ten Indriyas, (4) Manas, (5) Buddhi, (6) Ahankara, (7) Chittam, (8) Tejas, (9) Pranas. Probably this portion of Upanishad was composed after Sankhya ideas. Sankara distinguishes :—

1. Manas and Indriyas.
2. Five elements.



3. Sukshma Sariram.

4. Kama.

Intellect is the modification of Atma characterised by cervitude.

Mind is the modification of Atma characterised by resolution.

Thinking is the modification of Atma characterised by Investigation.

Egotism is the modification of Atma characterised by self-consciousness.

#### PANCHA BHUTAS.

The Akasa tanmatra is evolved from Brahman and also the tanmatras of Vayu, Tejas, Apas and Prithivi. Akasa has the capacity of sound. It is infinite and all-pervasive. Vayu emanates from Akasa and has the quality of sparsa. It is a subtle and gaseous matter.

Tejas tanmatra evolves from vayu and contains the energy of radiant heat and light. Apas is formed out of Tejas tanmatra with the capacity to stimulate taste or Rasa. It is a subtle, viscous matter. Prithivi tanmatra is evolved from Apas with the latent power of Gandha or smell.

So Akasa has the quality of producing sound.

Vayu

Sabda and Sparsa

Tejas

Rupa, Sabda, Sparsa

Apas

Rasa, Rupa, Sabda, Sparsa

Prithivi

Gandha, Rasa, Rupa, Sparsa, Sabda.

The five kinds of sound which are exhibited by the five bhutas are differentiated in Panchadasi as follows :

"Akasa has a hollow booming sound, Vayu has sibilant whistling sound, Tejas has puffing, roaring sound, Apas has gurgling sound and Prithivi has a splitting, rattling or crackling sound."

#### STHULA BHUTAS.

These are derived from Sukshma bhutas and each contains all the Sukshma bhutas and the process by which they are produced is Panchikarana or quintuplication. The process of production is described by Vedanta sara : "Divide each Sukshma bhuta into two parts and divide one of these parts into four. One portion of the former of the particular Sukshma bhuta and 1 part from



the four parts of each of the other Sukshma bhutas make a Maha bhuta."

The Sukshma bhutas are homogeneous and continuous whereas the Maha-bhutas have an atomic structure. But according to vedanta, a *paramanu*, is not an ultimate indivisible discrete constituent matter but is the smallest conceivable matter. In Sankhya system, it is prakriti and its *gunas* that are homogeneous and continuous while tanmatras exhibit an electronic structure, but in vedanta, it is only the sthula bhutas that are atomic, and all others are homogeneous.

#### STRUCTURE OF THE MAHABHUTAS.

One atom of Akasa is composed of one-half of Sukshma Akasa and one-eighth of each of the other Bhutas.

One atom of Vayu consists of one-half of Sukshma Vayu and one eighth of each of the other Bhutas.

Similarly for the other Mahabhutas:—Tejas, Apas and Prithivi.

Some are of opinion that Akasa is pure and unmingled and that :

One atom of Vayu consists of one half of Sukshma Vayu and one sixth of the Tejas, Apas and Prithivi Sukshma Bhutas.

One atom of Tejas consists of one half of Sukshma Tejas and one sixth of Sukshma Vayu, Apas and Prithivi.

Similarly for Apas and Prithivi Mahabhutas.

Others think that Akasa and Vayu are pure and the other three Mahabhutas are combinations.

One atom of Tejas is composed of one-half of Sukshma Tejas and one-fourth of Sukshma Apas and Prithivi.

Similarly for Apas and Prithivi.

(To be continued).



# AYURVEDIC THERAPEUTICS OR THE SCIENCE OF RASA, VEERYA, VIPAKA AND PRABRAVA

BY

VAIDYABHUSAN PURUSHOTTAMSHASTRI HIRLEKAR,

AMRAOTI

*and translated from his Marathi compilation by Ayurveda-  
 charya Pandurang Hari Deshpande, Poona.*

( Continued from our last issue )

## DESCRIPTION OF PROPERTIES.

*Shunthi* (Zinziber officinale)

Properties from Texts :—

शुण्ठी रुचाऽऽसवातघ्नी पाचनी कटुका लघु ।  
 स्निग्धोष्ण मधुरा पाके कफ वात विवंधनु ॥ १ ॥  
 हृद्या स्वर्या वमिश्चासृग्लकास हृदामयान् ।  
 हन्ति क्लीपदर्शितांश्च ज्ञानाहोदर मारुतान् ॥ २ ॥  
 तथा नागरं कफ वातघ्नं विपाके मधुरं कटु ।  
 हृद्योष्णं रोचनं हृद्यं सस्नेहं लघु दीपनम् ॥ ३ ॥  
 पाण्डुं संग्रहणीं पित्तं नाशयेदिति कीर्तितम् ॥

The Rasa of Shunthi is pungent and its Vipaka is sweet. Its Veerya is hot and it is light and a little greeasy (snigdha), stimulant, stomachic, digestive, wholesome to the heart and to (one who wishes to have good) sound and is aphrodisiac. It cures the following diseases :—Amavata (Rheumatism), Obstruction of the cellular paths, Vomiting, Asthma, Colic, Bronchites, Heart-Disease, Elephantiasis, Piles, Tympanites, Ascites, Nervous Diseases, Anaemia, Sprue, etc.

Amongst all the above properties, the properties, stomachic and wholesome to the voice, are due to the Rasa of ginger. On account of the pungent Rasa of ginger, the tongue and the throat are cleaned and appetite and clearness of voice are obtained. The property anti-vomiting is produced somewhat from the Rasa. For, Vipaka



takes place after digestion before which there is Rasa. Digestion takes place in the Pachyamanashaya or the small intestines and the disease of vomiting is originated in the Amashaya or the stomach. So it is but natural that action before Vipaka is that of the Rasa. But some sort of digestion happens even in the stomach. The Kledaka Kapha of the Amashaya means the juice (liquid) oozed out through the stomach to liquify the food and when this liquid mixes with the Rasa of ginger, it is but natural that some change should take place in its original Rasa. The change in the original Rasa of substance while it undergoes the state of digestion is really Vipaka. Of course the stage of digestion is not complete in the stomach, but it must be admitted that the original Rasa is changed and so the action in the stomach cannot be said to be of Rasa alone. It is of both—of Rasa and Vipaka. The liquid in the stomach that causes vomiting is lessened on account of the pungent rasa and on account of the somewhat sweet rasa produced there, irritation of stomach is lessened and vomiting stopped, because the production of unnecessary liquid in the stomach and its irritation is really the cause of vomiting :

आमाशयोरुक्ती शमनाः प्रायश्चर्ये..... ।

such has been given the cause of vomiting in Ayurveda.

The properties stimulant, stomachic, diminishing Kapha, Vata, Pitta are due to the Veerya of the substance and hot being the Veerya (of ginger), stimulant and stomachic properties are possible. Ginger becomes diminisher of Vata on account of its hot and a little snigdha qualities and diminisher of Kapha on account of its being of hot and light qualities. Its diminishing Pitta must, however, be considered. Because out of its hot, light and greasy qualities, none is opposite to Pitta, rather they are common, and so they should not diminish Pitta, they must rather increase it.

पित्तं सङ्घेहतीक्ष्णं लघु विखं सरं द्रवम् । (वा. सू. अ. १)

such has been described Pitta. It contains qualities as hot, light and a little greasy. Then what does it mean that ginger diminishes Pitta?

This of course means that ginger does not diminish hot and light qualities of Pitta but obnoxious (sour-smelling-Visra) and liquid qualities of Pitta are diminished by ginger. These qualities of Pitta are increased on account of the lessening from it the proportion of hotness which brings disorder in Pitta. Owing to hotness and severity of ginger this obnoxiousness of the liquidity of Pitta



is diminished. Ginger does not diminish hotness of Pitta, it rather increases it.

In this (disordered) state of Pitta, only the quality severity is to be seen increased in Pitta. When Pitta becomes liquid its digestive property is lessened and the undigested portion becomes soiled, sour and this soiled state gives rise to severity of Pitta. The increase of hotness alone does not produce severity (Teekshnata). Pitta as described in Ayurveda is not hotness alone, but hotness resorted to liquidity. When hotness decreases, digestive action of it decreases and disorder takes place. This is then the state where ginger is found to be effective. This will show that ginger does not decrease Pitta in its pure form, but its disordered form.

Kapha is also decreased by hot and light qualities, but these are not sufficient to diminish Pitta. Because from want of hotness, sourness is produced in Pitta, though its natural hotness exists there and so this disordered state of Pitta is not cold like the disordered state of Kapha which is devoid of hotness. On the contrary, from want of hotness in the disordered state, severity arises, which causes burning, irritation, and which produces disorders such as decaying, ruptures, etc. Medicines indicated in this state should be digestive, stomachic, but must not be such as will cause irritation and trouble owing to severity. Ginger, though pungent, hot, stomachic and digestive is of sweet Vipaka and is rather greasy owing to this Veerya and so without increasing burning and irritation, ginger with its digestive qualities cures the disordered state—sour (Visra) state of Pitta.

Madhura Rasa alone is cold and is also diminisher of Pitta but it increases greasiness and so sourness in the undigested state of Pitta does not decrease, but rather increases. So also pungent Rasa alone, though it is digestive and stomachic and is not greasy and will not increase Visrata (sourness) but will decrease it still, being severe, increases severity and irritation of the disordered Pitta and will cause to burn and irritate. So Madhura or pungent (katu) Rasa alone is of no use to cure the disordered state of Pitta.

To diminish the disordered state of Pitta without increasing severity, Tikta or the bitter rasa is very useful. Bitter Rasa diminishes Visrata or the obnoxiousness (sourness), it is digestive, and being of Sheeta Veerya does not cause burning, but is rather soothing and so this rasa has been considered to be the best to diminish (the disordered) Pitta.



When, however, there is more snigdhdhata in the disordered Pitta, the wasted pittamaya (containing pitta) substances stick in the very minute cellular parts of the human body and a very strong purifier is required to remove it. This purifying quality does not exist in the bitter rasa so much, as it does in the pungent rasa. Bitter rasa is soothing and pungent purifying.

Owing to this reason, bitter rasa also does not become effective in a condition of Pitta when it is with much snigdhdhata. That is to say, Madhura Rasa alone increases snigdhdhata as it is without the stomachic qualities; pungent alone, though stomachic, causes burning owing to its severity, and bitter rasa alone being unable to drain (the dirt), pungent rasa having madhura rasa as its Vipaka is only effective in this disordered and rather sningdha condition. This condition is called "Pitta with Kapha".

Hotness and severity in pungent rasa produces stomachic and purifying actions, and if the Anurasa of this pungent rasa is sweet, this madhura rasa brings about, after the digestive and purifying action is over, some snigdhdhata and burning sensation goes out, resulting ultimately to the production and growth of the physical tissues (Dhatu). Purifying the particles of the Dhatus without producing dryness in them, but rather greasiness,—so much greasiness only which will not cause the Dhatus to ooze—will tend to the production and growth of the Dhatus. This is the property which is termed scientifically as "Rasayana." The properties of ginger are stomachic, digestive, purifying, greasy and so they cause to purify the Dhatus, and to remove obstruction of the intercellular spaces, still ginger is not described as Rasayana. But it is possible that ginger should be Rasayana in view of the general theory of Therapeutics. This is why ginger is given in the Rasayana formulae, though this rasayana property is not mentioned specifically along with others.

शुद्धी विडंगविकलागुडचौ

यष्टीहरिद्रातिवलावलाच्छ ।

मुक्तासुरावागुर्विवकाश्च

सौगंधिकं पंकजमुत्पलानि ॥ १ ॥

यवाश्चकणसिनवालप्लव-

सारासुथा पिप्पलिवत्प्रयोद्याः ।

लोहोपलिप्ताः पृथगेव जीवे-

क्षमाः शतं व्याधिजराविमुक्ताः ॥ २ ॥



विडग्मच्छातकनागनराणि

मेऽह्नन्ति सर्पिमधुसंयुतानि ॥

जरसनहौ रोगतरंगिणीते

खान्दण्युक्ताः पुरुषास्तरन्ति ॥ १ ॥

(अ. ह. उत्तरखानम्)

The Rasayana property of ginger is described in the above verses.

To cure Amavata is also a property of ginger which can be inferred from its Rasa and Veerya. When the Rasa Dhatu (first of the seven physical Dhatus) gets very greasy, sticky and rather solid and does not freely circulate and gets accumulated in the intercellular spaces which makes them water, it produces Rheumatism (Amavata). This Ama (spoiled condition of the Rasa Dhatu in the above state) is removed and the intercellular spaces are purified by the pungent rasa, hot Veerya and accordingly digestive and stomachic properties of ginger so as to cure the disease Amavata produced by this Ama. In this property of ginger, Prabhava is also concerned besides Veerya. This will receive consideration when we deal with prabhavic properties of ginger.

In the same way, ginger proves effective in Elephantiasis owing to its pungent rasa and hot veerya and somewhat owing to its Prabhava.

In Ascites, ginger works by its property, stomachic and purifying the intercellular spaces, and so it will be effective specially in the Vatic variety of Ascites. Vatodara is really the disordered state of Vata in the large intestines. The hot Veerya and the property of expanding the intercellular spaces cause the accumulated spoiled Vata (gases which are the cause of Vatodara) to clear off. The effect of ginger in the disease of the heart is by its general power of Rasa and Veerya, but the same is powerful.

The use of ginger to be effective on Anaemia, Piles, etc. will really be in their Kapha variety. In this state, greasiness is more increased in the Rasa and blood Dhatus and the same being removed by ginger, the diseases go away, the very cause having been removed. Especially the use of ginger in Piles is rather powerful, but that in Anaemia is of a general nature.

THE MORE IMPORTANT OR POWERFUL (PRABHAVI)

PROPERTIES OF GINGER (*Zinziber. officinale*).

The properties of ginger described above are rather of a general nature and found to be taking place when the diseases are in their



stage of causes (prognosis). Ginger cannot be a specific remedy in these diseases. Ginger which has digestive, stomachic and purifying properties without irritation will of course be a medicine in such diseases where such properties are required on account of the disordered state of Pitta or where there is much greese, obnoxiousness (*Visrata*) and *Samata* (state of *Ama* poison), and where irritation becomes harmful. But the same is rather a cause-removing, i.e. helpful remedy. It is not a specific remedy that will cure the particular diseases in their particular abodes.

Disordered digestive power and the obstruction of the inter-cellular spaces is really the general cause of any disease and the same is removed by ginger by its stomachic and digestive properties. Besides, it does not produce irritation, it rather creates some greesiness required after the action of purification which tends to produce and grow the *Dhatus* and so ginger which is the remover of the causes of all diseases is supposed to be the curer of all diseases. Its name "*Vishvaushadha*" is indicative of the same supposition.

These, however, cannot be specially effective properties of ginger. We shall now see what these specific properties are and how and why they come to be.

Before ascertaining the specific uses, we must see to what substances and parts of the human body ginger has similarity with its substance and mould. The action of this similarity, by which, parts or actions of the human body are effected, is really *Prabhava*.

*Rasa* and the consequent *Veerya* pervades the whole substance in more or less degree, so also is the case with the human body and so does *Veerya* act upon the body as a whole. But just as one substance differs from the other in size, form and mould, so do the substances of the human body, viz. *Dhatus*, though limited in number, really form in different proportions the respective parts of the body and still these parts differ from each other in size, form and mould (or the manner of taking their livelihood). To speak the truth, every part of the human body experiences independently a separate way of liveliness or in other words different ways of liveliness of these parts form the liveliness of the human body as a whole. Just as the different limbs of the body are its parts, so their different ways of liveliness are really those of the body as a whole. Though all the parts of the body consist of the same substances, there remains difference in their form, etc. and one part cannot do the work of the other. Even in healthy condition, one part



cannot fulfil the want of the other or its action, and when a particular part or its action is disordered, a medicinal substance must be such as would efficaciously act upon that particular part or the particular action. Such substance, owing to homogeneity in substance, form and action, acts specially upon that part.

The form of ginger is knotty and its mould is thready and its substance is smooth and starchy and so it will naturally act upon such kind of physical substances and parts. What are such substances and parts of the human body?

Smooth and soft substance in the human body is the main factor of Flesh—Mansa Dhatu, and the thready or muscular mould of such substance are the Mansa Peshis or the muscles. The origin of these threads or muscles is knotty and so ginger would act upon Mansa Peshis or muscles, muscular parts and knots (knotty joints). The use of ginger in Ama Vata (Rheumatism) is based upon this principle. The Ama or the obnoxious substance producing Amavata accumulates in the surface of the muscular parts of the Peshis and oozes out there and causes them to stunt. This is why the whole body becomes stunted. Ginger by its homogeneity with Mansa Peshis in its smooth and soft substance and thready mould especially acts on them and its pungent rasa, hot veerya and stimulating, digestive and purifying properties as also those which clear off the intercellular spaces cure the disease Amavata.

The abode of Amavata is the muscular portion of Mansa Peshis and the substance forming part of the disease is the disordered (i.e. that has become obnoxious) Rasa Dhatu. This Rasa Dhatu becomes more greasy, sticky, smooth and somewhat solid and so does not freely circulate through the Rasavahinis (ducts carrying the Rasa Dhatu) and gets accumulated there, whereupon it begins to water and consequently swelling follows. This swelling is naturally more in joints and the swollen parts begin to ache. The hot Veerya and stimulant digestive properties of ginger cause to decompose and purify this Rasa and remove the obstruction of the ducts carrying the same, thus resulting in the cure of Amavata. Besides, this Rasa is in the Vidagdha state (bilious) and ginger, though hot in veerya, being rather greasy and of sweet vipaka, does not cause burning or irritation after the Amarasa has been purified.

In this disease Amavata, there is possibility of the Medas Dhatu (fat) being disordered. For, the Mansa Peshis which are the resort of this disease have their other side filled up with fat and so it is but natural that the disordered Rasa should affect fat



also. When it thus happens—both the Rasa and Medas Dhatus having had Vidagdhdhavastha—the Medas which is itself greasy becomes more sticky and slippery and causes the ducts in the Mansa Peshis to water in more quantity and consequently there is more solid swelling, more hardness and more severe aching and the disease becomes more serious.

This is a stage of Amavata, wherein medicine must be such as would purify the Medas Dhatu (along with the muscular system and Mansa Peshis.) Such a medicine is castor oil. Castor oil has no doubt similarity with fat in form. This oil is Ushna in Veerya and laxative but does not cause burning and so having removed the vidagdhdhavastha, it causes the action of purification smoothly. In this sort of Amavata, wherein fat is disordered along with the Rasa Dhatu, castor oil along with ginger becomes efficacious. According to this principle, formulæ of ginger and castor oil have been indicated in Amavata.

### १. शुण्ठ्यादिः कषायः ।

शुण्ठी गोचुरककषायः प्रातः प्रातर्निषेवितः ।

आमवाते कटीशूले पाचनी रुक्प्रणाजानः ॥ १ ॥ (यो. र.)

### २. शुण्ठ्यादि कषायः ।

शुण्ठी शुण्ठ्यभया चोया देवाह्नतिविषाहताः ।

कषाय आमवातस्य पाचनी रुक्प्रभोजनम् ॥ १ ॥ (यो. र.)

### ३. महीषधादिः कषायः ।

महीषधावताभवः कषायक्य सेवितः ।

हिनस्ति चाममारुतं विराय संधिसंयितम् ॥ १ ॥ (यो. र.)

All these decoctions mainly consist of ginger.

*The use of the seeds of castor in Rheumatism.*

१. विशोध्यैरण्डवैजानि पिष्ट्वा तत्पायसं पिबेत् ।

आमवाते कटीशूले गृध्रस्यो वीषधं परम् ॥ १ ॥ (यो. र.)

२. एरण्डवैजमज्जा समविशयशर्करासहितः ।

गुटिकीकृतः प्रभाति मुक्तः सामानिलं जयति ॥ २ ॥ (यो. र.)

३. आमवातगर्जेद्रस्य शरीरवनचारिणः ।

एक एवाप्रणीर्हता एरण्डस्ते हकेसरी ॥ ३ ॥

४. कटीतटनिकुंजेषु संचरन्वातकुंजरः ।

एरण्डतैलसिंहस्य गंधमाघ्राय गच्छति ॥ ४ ॥

All these Slokas go to show that ginger and castor oil are very efficacious in Amavata.

(To be continued.)



## MENTAL HYGIENE AND CHILD PSYCHOLOGY

"MIND HAS ITS MALADIES LIKE THOSE  
OF THE BODY."

BY

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Very few people are aware of the fact that the mind has its disorders like those of the body. The sufferings of mental disease often outrival the most intense form of physical pain such as that of cancer. Insanity as a form of mental illness is well known ; but as malaria is not the only type of fever so insanity is not the only type of mental disease. Most people are conversant with the more or less familiar symptoms of such mental aberrations as hysteria, washing mania or unjustifiable anxiety. Sometimes the manifestations of mental disease appear to be queer and meaningless to the lay person and that is why such disorders are not counted as diseases. They are often considered to be mere peculiarities, eccentricities or even wilful perversities on the part of the individual.

COMMON EXAMPLES OF MENTAL ILLNESS.

*Uncotrollable Indecision*

Mr. A. is a responsible Government officer, who has to exercise his calm judgment in many difficult situations. One would expect him to be a thoroughly rational individual with strong common sense and in fact such is the opinion that the general public entertained about him. But if any one has the opportunity of watching him in private he will notice that Mr. A takes an abnormally long time over his dressing-table. He chooses one tie immediately to reject it for another. This vacillation continues for quite a long time making it difficult for him to keep his appointments. If any one happens to be in Mr. A's confidence, Mr. A will tell him of the indescribable suffering that he has to undergo if he is forced to make a quick choice; he passes the day in extreme apprehension of some inevitable disaster.



*Counting Mania*

Mrs. B finds herself compelled to count up to fifty-one before she can attempt even the simplest act. She constantly worries over this foolish compulsion but finds herself unable to control it.

*Persistent Funny Idea*

Mr. C is obsessed with a funny idea which comes into his mind repeatedly and defies all his attempts to forget it. Whether he eats or reads or walks or is engaged in some conversation, the same idea crops up disturbing his peace of mind and gives him no rest. The suffering is awful.

*Absurd Fears*

Mr. D, although he lives on the second floor of a Calcutta house in Clive Street, is in constant fear of snakes. He knows his fear to be absurd but he cannot drive it out of his mind. Mr. D is not the only person to suffer from such unreasonable fear. There are many like him. Some are in mortal dread of crossing the streets, some cannot remain alone for any length of time, some are on the point of collapse during thunderstorms and some have a fainting fit at the mere sight of a rat. All these people are extremely intelligent in other respects. They may be quite brave persons in facing situations which are generally considered dangerous.

*Other Forms of Mental Illness*

Extreme jealousy, shyness, punctiliousness are all manifestations of mental abnormality. It is impossible within the brief compass of this pamphlet to give an account of all the different types of mental disorders that exist. In the case of mental disease, it is not only the patient who suffers, but his relations and friends have often to put up with an amount of inconvenience that is hardly realized by the ordinary person. Drug addiction, drinking habit, moral lapses may all be traceable to a diseased mind.

## MENTAL DISEASE IS CURABLE.

Mental disease is curable. Although it would be wrong to assert that all forms of mental illness yield to treatment, it is an undoubted fact that a good many mental disorders are capable of being adjusted if suitably treated on mental lines. Mental Hygiene aims at preventing mental illness.



## MENTAL DISEASE BEGINS IN CHILDHOOD

It has been found out that the experiences of childhood play the most important part in the production of mental disease, and therefore Child Psychology becomes naturally the most important consideration in Mental Hygiene. Most of the mental sufferings in adults have their origin in early childhood and are determined to a large extent by parental behaviour to which they can be directly traced. The influence of a neurptic parent on the mind of a child is simply disastrous.

## HEREDITY AND ENVIRONMENT

Every human being like every other animal is a product of heredity and environment. A man is born with certain special aptitudes, that is, with certain special potentialities either for good or evil. These hereditary tendencies remain latent until they find a suitable environment for their development. Heredity determines whether any special trait is present or absent in the individual and decides the limit of its development ; while the environment determines the actual manifestation of such trait in practical life and the degree of development it attains. Thus heredity stands for potentialities and environment for actual realization. Take the case of a seedling ; if it is put in a fertile and suitable ground and protected from injury it will grow into a plant of normal size ; if the environment is unsuitable it will not grow at all in spite of its potentialities for growth ; if the conditions are less unsatisfactory it may show a sort of stunted growth. Removal to better surroundings may help it to attain the normal size. The possible limit of growth is determined by heredity and no amount of favourable circumstances will make it grow beyond certain dimensions.

## ROOM FOR IMPROVEMENT

The child, if it is brought up under favourable conditions, will grow up to be a normal man. If the conditions are unfavourable, the child may turn out to be a useless and even a dangerous member of the society. In every child, there are potentialities for good or evil. Hence the great influence of proper nurture.

Unfortunately under the present conditions of civilized society, not one of us receives that advantage which would develop in him his best traits to the fullest extent. Practically every one is in some way handicapped by environment so that none attains to



the fullest stature of his mental or physical growth. There is always room for improvement.

### THE UNCONSCIOUS MIND

It has been dimly realized by lay people as well as by psychologists that the childhood impressions leave lasting effects. The child is veritably the father of the man. It is to the credit of modern psychologists that a good deal of the complicated factors operating in childhood that go to form character traits has been unearthed. Many of our so-called hereditary defects are really the products of childhood influences and with proper treatment such defects are remediable even in adult life. According to the psycho-analyst, much of our mental work takes place beyond the sphere of our consciousness. Awareness is not the sole criterion of mind. Important and active processes may go on in the mind without our knowing anything about them. An observer sitting on the shore generally sees only what happens on the surface of the ocean. The powerful denizens of the deep are likely to escape his observation. Similarly the strong unconscious motives that sway the human mind are likely to elude the vigilance of the lay person and even of the psychologist who merely deals with the conscious mental level.

Even in the most cultured person, wicked antisocial tendencies and disgusting and shameful animal propensities exist in the unconscious region of the mind. Man's civilization and culture are merely superficial veneer and the primitive savage that lurks within him may break out at any moment from the flimsy restraint.

### THE STRUGGLE

There would have been no necessity of bothering about the unconscious mental material had it remained permanently out of view. But unfortunately for us, the unconscious never leaves us at peace. There is a continuous tussle going on in the human mind to keep these undesirable cravings in check. The conscious mind however has to fight its unknown enemy at a disadvantage; it seldom knows that it is fighting at all. It is only in the case of psycho-neurotics and similarly diseased persons that the fight becomes obvious. Usually the conscious mind is influenced, without being aware of the fact, by the unconscious forces and takes up a pose which is either a defence or a compromise and deludes itself with the belief that the pose



is a voluntary one or is an expression of its own nature. The character traits that distinguish the miser from the extravagant person, the coward from the valiant, the selfish man from the philanthropist, the atheist from the religiously minded person are all formed in this way. In fact, what a man is is the result of this interaction between the conscious and the unconscious mental forces. Once you grasp this situation you will easily appreciate that efforts to modify the character traits in an individual are likely to fail if they are directed to the conscious mind alone. You must at the same time tackle the unconscious. Here lies the value of psycho-analysis. Where punishments, precepts and examples fail to correct a child's faulty behaviour, psycho-analysis will be found to be of immense service. In curing bad habits, nervousness, obstinacy, over-sensitiveness, neurotic manifestations and similar defects, psycho-analysis is found to be very useful, as all these defects owe their origin to the unconscious factors of the mind.

#### CHILDHOOD FACTORS

It has been shown that most of our mental ill-health starts in the early childhood days, in fact before the fifth year of life. The childhood disorders may pass unnoticed in some cases; the parents may think them to be childish peculiarities not to be seriously considered and which the child will get rid of when it grows older. In many cases the child does get rid of them apparently and there comes a long period of normal health till the child becomes an adult. Then suddenly or perhaps gradually after some severe mental strain or shock, the latent mental disease breaks out in a new form and the individual becomes a confirmed mental invalid. All this could have been prevented if the significance of the child's peculiar behaviour had been properly understood and if proper step had been taken to correct it at the time. If we could bring up every child in a normal way, free from mental impediments, the number of adult neurotics would become surprisingly low. Preventive measures applied to children are likely to be more fruitful in the domain of mental disease than in the case of physical troubles.

#### SEX

One of the most important findings of psycho-analysis and one which has aroused the greatest amount of incredulity amongst uninformed people is the presence of sexuality in the young



child. It is popularly believed that sex cravings and sex knowledge come with puberty. The young child is supposed to be absolutely innocent of sex matters. The facts however are quite different. Sexual instinct is not a thing that comes suddenly into the life of the individual. The instinct is present from the moment of birth and grows continuously till at puberty it attains its normal development. There is no sudden irruption of sex in the individual. It is true that the manifestations of child sexuality are somewhat different from those of the adult. Many psychologists believe that thumb-sucking, so common in children, is a modified sex expression. There are several parts of the child's body such as the lips, the nates, the excretory openings and the genitalia which have a peculiar sensitiveness. Undue stimulation of any of these regions of the body may lead to the development of a feeling in the child akin to the adult sexual feeling. It must not be supposed that gross sexual manifestations are altogether absent in the child. Anybody who has no preconceived bias of the child's innocence is certain to come across them if he is at all careful in observing the child's behaviour.

#### NEUROTIC DISORDERS

A large number of nervous disorders owe their origin to an arrest of proper development of childhood sexuality. Childhood sexuality thus holds an important key to the future mental development of the individual. It is the environment which determines in a great measure whether the child's psycho-sexual life is to have a normal growth or not. Once the mischief is done, the results may be far-reaching, influencing the adult life.

#### PRECAUTIONS

Without going into theoretical technical details, we shall now briefly indicate the precautions and safe-guards that are to be observed in bringing up a child. The importance of inculcating regular habits upon the child cannot be over-estimated. It not only leads to the proper physiological adjustment of the different organs but it has also an important psychological bearing. The mouth and the excretory openings in the child are specially sensitive parts and regular feeding and evacuations prevent any undue accumulation of tension in these regions. In the child, sucking is accompanied by a pleasurable sensation and if food is not given at regular intervals, the child tries to soothe itself by thumb-sucking till it comes to acquire this habit for its own



sake. This habit is not only physically injurious but it also affects the child mentally. Many mothers instinctively know that it is a bad habit which is not to be encouraged. The child should be kept clean but it should be remembered that the sensitive regions of the child's body should not be handled frequently. From its early age the child should be taught to remain alone and in the dark for some time daily. Passionate fondling and intense caressings should be avoided. The caressings should be equally divided by the parents as far as possible. The child should be given opportunities of loving both its father and its mother. Undue affection from one parent is not conducive to the best mental health. One-sided influences are extremely harmful and the child should not be allowed to have the impression that it can have its own way in everything it wants ; neither should the child be always thwarted in its desires. The only child, the youngest child, the eldest child, the child who is frequently ailing are likely to have their own way in everything and these are the subjects apt to be unbalanced mentally when they grow older. The child should have the company of its brothers and sisters and of other children ; it should be encouraged to be friendly with outsiders as far as practicable. The child's curiosity should not be curbed and there should be no effort on the part of the parents to avoid inconvenient questions. Even sexual questions should be answered in a way suited to the intelligence of the child ; one need not explain more than the child itself wants to know. Psycho-analysis has shown how very dangerous it is to allow the child to pick up wrong notions about child-birth, etc. There should be perfect confidence between the child and its parents so that when the child wants to know anything it would, of its own accord, go to its father or mother. The child should not be allowed to sleep in the same bed with its parents when it is more than one year old. It is best to allow the child to sleep in a separate room altogether after the second or third year. The child's cravings and needs should be carefully studied and plays and recreations should be so arranged as to satisfy them. Observation of the child will show that it has opposite types of tendencies. For example, it may want to be caressed by the parents and to caress them in return ; it may want to lead its playmates at one time and be led by them at another and so on. Facilities should be given to the child for the satisfaction of these opposite types of tendencies as far as possible. It is



on this capacity to enjoy opposites that the health of the individual mainly depends.

### EDUCATION

The love bond of the child is one of the most important factors which control his conscious activities and determine his future interest and development. To educate a child properly, an atmosphere of love is the most essential condition. The child imitates the person whom it loves and the interest of the child is moulded on the ideal of the loved person. A teacher who can inspire love in the pupil is certain of better success than the one who is more efficient in his technique but who lacks this qualification. The method of teaching is certainly less important than the teacher. From time to time, numerous methods have been evolved to educate children. All these methods had their vogue so long as the inventor himself applied them. But directly any of these methods was taken up by an outsider, it ceased to be so effective. It was the personality and the enthusiasm of the originator that was responsible for the success. The teacher who is not loved and respected is bound to be a failure.

### MENTAL EXAMINATION

There is a certain class of mental defect based on organic mischief where purely mental treatment is not likely to succeed. When the thyroid function is defective, mental as well as physical growth are retarded; administration of suitable doses of thyroid gland works wonders in these patients. Then again, the child may be born with a defective brain as a result of hereditary deficiency. No treatment is likely to do any good here. Even with growing age, the child's mentality does not develop beyond a certain limit and all educational measures are ineffective.

It is being widely recognized at the present time that the child should be physically examined periodically and medical examination of school children is now an established fact in many countries. The necessity for a periodical mental examination has not been clearly appreciated as yet. The mental health of the child is as important an element in its make-up as the physical. Unfortunately most medical men have not a very clear notion of the psychological factors and the adage *mens sana in corpore sano* is believed to be universally applicable. It is supposed that if you keep the body fit the mind also remains fit. This is an error which cannot be too strongly condemned. The physically



healthy person may be a mental invalid and an utterly useless member of the society. The mind in many cases requires a separate treatment. Although at the present time, facilities for mental examination of children are limited we should keep the ideal in view and if possible, every child should be periodically examined by a mental expert. For the child who shows any mental peculiarity, mental examination is an indispensable necessity. Mental suffering is often much more intense and acute than physical suffering and no worthier object can be ours than to minister to a mind diseased.

IF YOU FIND ONE OR MORE OF THE FOLLOWING SYMPTOMS IN ANY PERSON, YOU MAY SUSPECT MENTAL DISEASE.

Sleeplessness.

Constant absent-mindedness.

Loss of normal modesty.

Want of normal restraint in language.

Taking up peculiar fads or hobbies.

Saying the same thing over and over again.

Doing the same thing over and over again.

Counting mania. (Counting up to a certain number before attempting to do anything.)

Washing mania.

Obsession by meaningless thoughts against one's wishes.

An inner compulsion to commit certain actions against one's wishes.

Hesitation in doing the simplest acts.

Excessive doubt.

Excessive shyness.

Talking too much.

To laugh or cry at the slightest excuse.

Fits.

To turn religious suddenly.

To consider oneself a great sinner and inferior to everybody else.

To have supernatural visions of men and things.

To consider oneself possessed of occult powers or abnormal wealth.

To hear imaginary sounds.

To think one is being influenced by hypnotism, spells, *mantras*, wireless messages or electricity.



Anxiety over everything.

To be apprehensive of serious illness or danger on the slightest account.

Excessive and constant fear of death.

To think others are trying to insult you by coughing, looking in your direction, whispering about you or spitting, etc.

To think one's food is poisoned.

To suddenly change one's accustomed mode of life.

To refuse to speak.

To refuse to eat and to renounce all food.

To sit still in one place and not move.

*Perfect mental health is rare.*

## HOW OLD IS YOUR CHILD ?

*Does it behave as it ought to at its age ?*

A normal child, 6 to 10 months old, can do the following :—

1. Can turn and lie on its stomach.
2. Can pop up its head and raise its breast when lying on its stomach.
3. Can keep its head straight when made to sit.
4. Can seize things with its hands.
5. Can seize things and put them in its mouth.
6. Can play with things in its hands and will cry when the things are taken away.
7. Can seize two things at a time one with each hand.
8. Can utter sounds like *Ma, Ma, Pa, Pa, Da, Da*.
9. Can laugh.
10. Can recognize its mother and express joy at the sight of her.
11. Can smile when it sees a smiling face and cry when threatened.

## 10 MONTHS TO 18 MONTHS,

1. Can stand with the support of some object and sometimes without any support.
2. Can crawl up the stairs.
3. Can walk some paces if helped.
4. Can seize things with finger and thumb.
5. Can put things in boxes if shown.



6. Can scrawl lines.
7. Tries to seize a third thing when it already has something in each hand.
8. Searches for its playthings when they are hidden under covers and tries to find them.
9. Can utter short words like *Ma*, *Pa*, etc.
10. Can answer when it is called.
11. Can understand words like 'give' 'take', etc.
12. Can understand and obey such orders as "Don't take this," "Don't do that," etc.
13. Uses the right hand more than the left.

#### 18 MONTHS TO 2 YEARS.

1. Can walk.
2. Can come down the stairs sitting.
3. Can throw things.
4. Can place 2 or 3 small boxes (*e.g.*, match boxes) one upon the other if shown.
5. Can hold three things with two hands.
6. Can speak some words.
7. Can point to hands, mouth, etc., when asked.
8. Can understand questions like "Will you eat?" "Will you go to bed?"
9. Shows an interest in pictures when shown any.
10. Can eat with its own fingers.
11. Knows when and where to use the lavatory.
12. Can carry out appropriate movements in being dressed.

#### TWO YEARS TO THREE YEARS.

1. Can draw vertical lines.
2. Can fold a piece of paper in half when shown.
3. Will try to draw things towards it with a stick when out of reach.
4. Can place 3 or 4 boxes one upon the other.
5. Can utter sentences with 3 or 4 words.
6. Can name familiar things when their pictures are shown to it.
7. Can understand which is the outside and which is the inside of a thing.
8. Listens to stories with interest.



9. Plays alone.
10. Asks many questions.

### THREE YEARS TO FOUR YEARS.

1. Can draw horizontal lines like — and circles O when shown.
2. Can understand the differences between round things and square things.
3. Can arrange 5 or 6 boxes one upon the other.
4. Can arrange a few things according to the pattern of a given picture.
5. Can use the pronouns 'I', 'You', etc.
6. Can use the adjectives like 'small', 'big', 'white', 'black', etc.
7. Can use words such as 'for', 'why', 'man', 'also', etc.
8. Can repeat stories that have been told to it.
9. Can tell its name.
10. Wants to put on its shoes, coats, etc.
11. Can keep its things arranged.
12. Tries to show its dexterity at play.
13. Wants to go outside the house.
14. Uses mirrors.
15. Can repeat 2 or 3 digits, *e.g.*, 2-5-1, after hearing them once.
16. Knows the names of colours but cannot always point to the right ones when named.

### FOUR YEARS TO FIVE YEARS.

1. Can draw crosses like this +
2. Can draw lines between two four-sided figures one enclosed within the other.
3. Can pronounce all the words of the First Primer.
4. Can himself take his bath, clean his teeth and wash his face and unbutton his coat, etc.
5. Can play with others.
6. Can repeat 3 or 4 digits, *e.g.*, 2-5-7-3, after hearing them only once.
7. Can count from 1 to 10.
8. Can say which of the two lines is larger and which is shorter.
9. Can say whether it is now day or night.
10. Can fold a piece of paper into quarters when shown.



## FIVE YEARS TO SIX YEARS:

1. Can copy triangles and squares.
2. Can arrange 7 or 8 boxes after a given pattern.
3. Does not prattle but pronounces every word clearly and distinctly.
4. Can answer questions like this :—  
Why are leaves of the tree moving ?  
Why is the mother beating the child ?
5. Can keep his personal belongings arranged.
6. Can repeat 4 or 5 digits like 5-7-3-1-4 after hearing them once only.
7. Can distinguish between the right hand and the left.
8. Can say whether it is now morning or noon.
9. Can say whether its mother or its father is the older of the two.

MENTAL DISEASE TAKES ROOT BEFORE  
THE FIFTH YEAR OF LIFE

*Protect Your Child from Mischief.*

WHAT NOT TO DO.

Do not feed the baby from the breast as soon as it begins to cry. Very often bites of mosquitoes or ants or a wet bed, thirst, pain in the stomach, etc. make a child cry. Try and remove the cause of its crying.

Never feed a child by force.

Do not force a child to do anything in anger, vexation, or haste.

Do not allow a child to remain slovenly.

Do not frighten a child into sleep or put it to sleep by telling it a story or by patting or rocking it.

To keep your child quiet, do not frighten it with stories of ghosts, bogies, animals, etc.

Do not allow a child to sleep on the same bed with its parents from about the age of one year and a half upwards.

Never lie to a child.

Do not rebuke a child for asking questions nor stop it even when the questions are about matters of birth. Give it true answers up to the standard of its intelligence.

Do not dishearten a child when it wants to do something beyond its powers.



Do not taunt a child or laugh at it when it makes mistakes.

Do not disturb your child with caresses when it is at play.

Do not excessively caress your child.

Do not give any toy which the child cannot manage.

Do not pamper the child.

Do not punish a child when you can correct it with kind words or tender behaviour.

It is never necessary to punish a child if it is properly brought up.

#### WHAT TO DO.

See that good and regular habits are formed by the child from birth. A child can be taught habits of cleanliness from the actual moment of birth.

Get a child accustomed to darkness from infancy.

Teach a child self-help.

Allow your child to play with other children.

There are contradictory tendencies in the child's mind, *e.g.*, to lead, to be led, to caress, to be caressed, etc. So all the child's activities and even play should be so regulated as to give satisfaction to these opposite types of cravings.

Both parents, the father and the mother, must show equal love to the child. A child's mental health suffers by the expression of excessive fondness on the part of one of its parents only.

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## Medical News & Notes

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### THE SKIN

#### Some of its Diseases and Troubles and how they are cured naturally

By Dr. Benedict Lust.

The diseases of the skin are a legion. Even the most expert skin specialist continually meets cases which baffle him. Very, very little is known about the more intricate skin diseases. As one specialist said when he chose the skin as his specialty, "Well, my patients don't wake me at night, and they don't get well."

We can skip through some of the most common diseases and get a general idea of the various types of skin diseases.



## RED SKIN

One type of red blotches occurs because of constipation, because the body becomes loaded with filth, because elimination is not perfect. The patient usually makes his own diagnosis. He comes to the office and says, "Doctor, every time I get constipated I get these red blotches. What am I going to do? And the wise doctor, after due consideration, says, "Don't get constipated."

## "NERVOUS" SKIN DISEASES

Another type of red skin is due to nervousness. Women, very often, will have a red blush at the neck or on the upper chest. It comes when they are just the least bit excited. The remedy is to strengthen the nerves.

## HIVES

Hives are a red blotchy eruption due to a lack of lime in the body. They are caused by irritation from certain foods or substances to which the patient has become sensitive.

A PATIENT BECOMES "SENSITIVE" BECAUSE HE LACKS SUNSHINE  
AND FOODS THAT ARE RICH IN MINERALS,  
FRUITS AND VEGETABLES

Swellings and redness of separate parts of the body, scattered sections, may occur due to a sensitivity. This is called angio-neurotic edema.

## DRY SKIN

Skin that is very dry and which sheds, flakes off is due to skin disease called Lichen Chronicus Simplex. The cause is unknown. However, patients with this disorder who get out into the sunshine, who bathe frequently and who put into the skin, nightly, a small amount of olive oil, report excellent results.

## THIN AND SHRUNKEN SKIN

Occurs "naturally" with advanced age. Due to hardening of the arteries and a consequent poor blood supply. Stria is a thinning and toughening of the skin occurring in lines. It is often seen on the abdomen after pregnancy, or a rapid loss of weight.

Certain nervous diseases involving the spinal cord may cause a glossiness of the skin or a gradual thinning and "atrophy" (shrinking).

## DISCOLORATION OF THE SKIN

The tanning which follows sunburn is familiar to all. It is due to the deposit in the skin of extra coloring matter. A protective measure on the part of the skin. It is technically called lentigo.



Discoloration of the lentigo type occurs in aging people occasionally.

Liver spots are brownish discolorations due to liver and gall bladder disease. It is believed due to some change in the blood which changes the red part, hemoglobin to a bile-like pigment.

The use of silver salts like silver nitrate, internally, may make the skin *black*. Albinos are people born without any coloring matter in their skin. They are dead white. The hair is white. The eyes are pink because of no coloring matter being present.

Leucoderma is the loss of the coloring matter in certain spots of the skin. The skin looks like it has white patches. These may get bigger as time goes on. The cause is unknown. There is a leucoderma due to syphilis.

### NERVOUS SKIN AFFECTIONS

The nerves of the body may become affected adversely through overwork, worry, constipation or various diseases.

#### SYMPTOMS

The nervous system can express itself in almost any fashion in the skin. There may be numerous or complete loss of sensation. Sometimes the sufferer is frightened thinking that he is becoming paralyzed. "Nervous" patients may have a hyperesthesia, an increase in sensations. The slightest touch is painful, they are very sensitive to cold and heat. The normal skin feelings are exaggerated.

Some very bizarre symptoms may occur. Some people, who have nervous sensations in the skin, will show a sustaining white line or red line when an object is drawn across the skin. Inasmuch as these skin symptoms originate in the nerves, the treatment lies with the nerves. A diet high in mineral salts like lime and phosphorus, sunshine, fresh air and avoidance of business and social worries. The profound effect of chronic constipation upon the nerves, because of the poisoning, should not be overlooked. Often a nervous skin affection is cured, by removing constipation.

#### BARBER'S ITCH

Barber's itch is a form of ring worm which is often passed from person to person through the use of unsterilized barber's implements. The eruption in barber's itch is similar to other ring worm manifestations. It usually appears below the jaw and has two distinct stages. First the skin of the unfilled area becomes red and thickened. It scales. The hair shapes in the skin concerned become hard, dry and brittle. They come out easily. The itch may go deeper. Small smooth oval "bumps" appear, there are openings where hairs used to be. The remaining hairs are merely a broken stubble. The eruptions break down, become filled



with pus. The treatment is through the use of agents to destroy the ring worm parasite. Sunshine is healing to the damaged tissues.

*Sycoses Barbae* is an eruption that affects the beard and hair of men. It is characterized by ingrowing hairs. Small pimples containing pus appear in scattered areas of the beard. They itch and burn. The hair grows loose and comes out easily. The treatment is to pull out the hair with a tweezer. Shave the unaffected hairs. Expose the face to the direct rays of the sun. Wash with Dilute lemon juice ( $\frac{1}{2}$  water), soothing lotions may be used.

*Oily Skin.* The entire skin secretes an oily substance, called Sebum. This protects the skin and keeps parts from sticking together. The natural oil of the skin is more abundant in some parts than in others. The forehead, the cheeks, the nose and the front part of the chest are "Sebum" areas. In the ear sebum mixes with sweat and other substances to form ear wax. In the nose and in the sexual organs it forms more complicated substances. An excess of oil is called Seborrhea. It is commonly due to constipation. The decrease of the eliminative work of the bowels, make it is necessary for the skin to do more elimination. The increase of function of the skin leads to increase in the secretions, Sebum particularly. Ridding the body of constipation and building the skin through air baths, sun baths and proper bathing, will cure Seborrhea.

Blackheads are like plugs of sebum mixed with dirt. They plug up a pore and give the characteristic black head appearance. They can be removed by squeezing them, cleaning the part with green soap and rubbing the part with lemon juice. The lemon juice aids as an antiseptic and astringent. Blackheads can be cured by ridding the body of constipation.

*Lack of oil.* Due to the deleterious use of strong soaps, beauty preparations and face powder, Asteatosis has become a very familiar condition. This means a dry, aging skin, wrinkles and thickening. Just the thing beauty preparations are supposed to prevent. The ugly changes come because the oiling of the skin has been prevented. Protection has been done away with; skin goes through a damage similar to that of any tissue or machine which requires oil and does not get it.

*Excessive Sweating.* An increase of sweat in any part over the normal, or in excess of what would be expected under the conditions prevailing, is hyperhydrosis, too much sweat. It occurs in the hands or on the nose. It is due to nervous changes. The nervous system is at fault.

Anhydrosis or lack of sweat is probably due to changes in some of the internal secretory glands like the thyroid or adrenals. As yet, the condition is not understood.

People who are discomfited by it have been known to win back a normal action by building the skin (sun, air, water) and massage and Friction Rubs



*The cure of these and other skin troubles is to remove the cause. Always internal cleanliness, proper diet and sunshine, water and fresh air help you to grow a clean healthy skin.* (Nature's Path)

## VEGETARIANISM AND HEALTH.

By C. R. JAIN.

(Continued from our last issue.)

At one time when the elements known as vitamins were unknown, it was the popular belief, encouraged by the European medical practitioners, that one needed a large quantity of flesh-forming foods. The formula for a man of 70 Kilograms in weight doing medium type of work, was as follows :—

Albumen	...	...	120 grams
Fats	...	...	50 "
Carbo-hydrates	...	...	500 "

It should be noted that the system extracts calory-units from the different elements as follows :

from 1 gram of proteid	4.1 calories
" 1 " " fats	9.3 "
" 1 " " carbohydrates	4.1 "

On this basis we get

from 120 grains of Albumen	492 calories
" 50 " " Fat	465 "
" 500 " " Carbohydrates	2050 "

Total 3007

To-day nobody would recommend so much consumption. It is to be noted that an excess of any of these elements produces disease. Too much fat would lead to excessive heat, an excess of carbohydrates to a variety of digestive troubles and what is termed (बुद्धी) in the Indian languages ; too much of protein will directly clog the alimentary canal and give rise to constipation. I give here a couple of tables from Dr. Bircher Benner's valuable work to show how much food is necessary and how easily it is obtained from non-animal products.

### (1) Day of uncooked Food

	Quantities in oz.	Proteids calories	Fat cal.	Carbo- hydrates, cal.	Total cal.
BREAKFAST :					
Apple diet dish*	8 $\frac{3}{4}$	20.2	74.2	136.0	230.4
Nuts	$\frac{3}{4}$	9.8	98.6	8.8	117.2
Mandarine	3 $\frac{1}{2}$	2.9	—	53.6	56.5
Total	12 $\frac{7}{8}$	32.9	172.8	198.4	404.1

\* See note at the end.



## DINNER :

Orange	$3\frac{1}{2}$	2'9	—	53'6	56'5
Banana	$3\frac{1}{2}$	4'5	—	88'0	92'5
Apple	$2\frac{7}{8}$	1'2	—	44'8	46'0
Walnuts	$\frac{3}{4}$	9'8	98'6	8'8	117'2
Celeriac	$2\frac{1}{8}$	2'8	155'5	12'4	170'7
Savoy	$1\frac{1}{4}$	4'5	166'0	10'2	180'7
Total	$14\frac{1}{2}$	25'7	420'1	217'8	663'6

## SUPPER :

The same as breakfast	$12\frac{7}{8}$	32'9	172'8	198'4	404'1
Total calories	40'25	91'5	765'7	614'6	1471'8
all three meals }					
Add whole meal bread	7'0	55'0	10'0	430'0	495'0
7 oz. in the day					
altogether					
if necessary or desired					

Grand total uncooked	47'25	146'5	775'7	1044'6	1966'8
food with 7 oz. of whole meal bread					

(2) *Day of mixed (cooked and uncooked) food :—*

## BREAKFAST :

Apple diet dish	$8\frac{5}{8}$	20'2	74'2	136'0	230'4
Walnuts	$\frac{3}{4}$	9'0	98'6	8'8	116'4
Wholemeal bread	$3\frac{1}{2}$	27'7	5'0	215'0	247'7
Butter	$\frac{3}{8}$	0'3	6'2	0'2	76'7
Oranges	$3\frac{1}{2}$	2'9	...	53'6	56'5
1 lump of sugar	$\frac{3}{16}$	...	...	20'0	20'0
Total	$16\frac{1}{8}$	60'1	254'0	433'6	747'7

## DINNER :

Oranges	7	5'7	...	107'0	112'7
Walnuts	$\frac{3}{4}$	9'0	98'6	8'8	116'4
Wholemeal bread	$3\frac{1}{2}$	27'7	5'0	215'5	247'7
Rice with tomatoes	$10\frac{1}{2}$	25'4	84'0	164'5	273'9
Spinach	$8\frac{3}{4}$	14'1	50'8	32'6	97'4
Lettuce	$1\frac{3}{4}$	1'5	82'0	4'0	87'5
Stachys	$2\frac{5}{8}$	4'9	121'7	37'5	164'1
Total	$34\frac{7}{8}$	88'3	442'1	569'3	1099'7



## SUPPER :

The same as breakfast

164 $\frac{5}{8}$	60	254	433	747
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All three meals together :

Cal. :	68 $\frac{3}{4}$	208	950	1456	2595
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The Appel diet dish referred to in two tables is thus made.

"Take a level tablespoonsful\* of rolled oats and soak\* for twelve hours in three tablespoonsful of water. Add the juice of half a lemon and a tablespoonful of sweet condensed milk (Nestle's milk) and mix it all well together in a dish. Two clean apples including the skin, core and pips are grated into it with a grater and continually stirred, so that the apples do not get brown....."

A tablespoonful of grated nuts or almonds may be added, if so desired. Dr. Birchen-Benner says of this :

"It should be well chewed and will thus be sufficiently warmed to suit the most sensitive stomach.

"This dish is especially suitable as a wholesome breakfast and supper for children from the age of two, for sick people with digestive disorders and for healthy people who wish to remain healthy."

In India probaly barley *sat-tu* could be substituted for rolled oats, without detriment.

### WHY FAT PEOPLE ARE ALWAYS GOOD NATURED

Americans can now puff out their chests and claim another world's record—they have the fattest man who ever lived, so far as is known. He lives at Los Angeles. He weighs 787 lbs. And he makes other human prize stock look like underfed striplings.

Daniel Lambert who died in England in 1809 at the ripe weight of 739 lbs. and "Miss Ima Whale," of the Ringling Circus, the world's fattest woman, tips the scales at 630 lbs, look like candidates in a slimming competition along-side this aggregation of avoirdupois.

Why are people so fat and generally so good natured? An American scientific journal, Current Science, enlightens us, and tells us there is nothing dangerous in it.

Right at the base of the brain, in a tiny niche of the skull's floor a soft gland is fitted. Blood circulates through it, but no tube leads from it ; hence it is known as a ductless gland. Its particular name is the

\* One tablespoonsful is equal to four teaspoonsful.



pituitary ; the word in Latin means "spit," and is applied because of the old idea that the saliva of the mouth was distilled from this gland. A juice is manufactured within its tissues, after all, and influences the body far more than any mere liquid upon the tongue could do.

The secretion of the pituitary which is absorbed into the blood controls the growth of the body in a most definite fashion. It regulates the amount of food that will be assimilated after digestion, and when acting properly it permits about the right amount of fat to be deposited under the skin to make us plump.

If the gland is overactive the fat is burned up by the body's heat and energy, and the person is slender. Such a one may eat and eat and eat, yet never graduate from the "skinny" class.

If the gland is underactive, the fat is not burned, but is deposited beneath the skin. This is what is the matter with Harry R.—; he may deny himself food to the point of weakness, yet what little he does take turns to fat and refuses to leave his body. Exercise to the limit of endurance, and constant hunger would remove but a few pounds of the 787 he possesses.

There are other effects of the pituitary gland upon the body, but they probably do not interest Harry. He is not greedy—just unfortunate. The chances are that he keeps in a good humour in spite of his troubles—and this brings up the second question, "Why is a fat person usually good natured?" The flames of anger are fed by the juice of another ductless gland—a pair of them, in fact—the adrenal glands that sit up the kidneys. From them the blood absorbs a juice that makes for strength in time of stress. A person with good adrenal glands is vigorous, active, and powerful; one with a poor pair is weak, and loves rest.

Humans, and animals as well, are stronger when they are angry or frightened. You—or a fox—can run faster after all from an enemy, depending upon the enemy's size and your respect for its power. This strength comes from the juice of the adrenal glands that is poured out in larger quantity in times of emergency—either to fight or run away.

Not long ago, Dr. Himwich of Yale University reported a strange and somewhat childish experiment. They placed a small cat in a cage in front of a large dog. Neither could reach the other and the dog became more and more enraged while the cat grew wilder and wilder in its fright. At the height of the disturbance, the doctor and his helper drew some blood from the veins of each creature and made a test upon each sample. The amount of fat in the blood of both was unusually high.

Adrenalin (the juice of the adrenal glands) pours out under the goading of both fear and anger. It causes fat to leave the tissues and



enter the blood, in order to supply fuel for the great activity of the muscles for the flight or the fight. It is easy to see, therefore, why anger and ill-temper cause one to lose weight. The opposite is also true; good temper makes no drain upon the fatty tissues. To a degree, then (at least as far as the adrenal glands are concerned) people are not good-natured because they are fat, but are fat because they are good-natured.

### PLANTAGO SEED.

In an article on psyllium seed by an official of the American Department of Commerce, which appears in *Drug Markets*, it is stated that the only species of plantago seed known to be growing in British India in appreciable quantities is *plantago leoflingii*, otherwise called *plantago ovata* or *isapgghula* or glond Indian plantago seed. Two other mucilaginous seeds said to be obtainable in that country are *Lallemantia royleana* and an *Ocimum*, not yet fully identified botanically. Examination of the seeds of *Plantago leoflingii* revealed the following: the seeds were generally light in colour; their surface was glossy; they were deeply excavated and possessed an oval area on the outer surface of a light brown colour. Seeds of the *Lallemantia royleana* are narrowly oblong and brownish black in colour and possess a dull surface. The seed reported to be an *Ocimum* has a dark colour, appears to be of a rounder shape than psyllium, and to have a high mucilaginous content. It is said to be used in India chiefly as a base for a hot weather drink.

The botanicals in British India yielding the seeds described above are reported by Indian dealers to occur as extensive wild growths, the most important regions being in the vicinity of Gujarat, Bombay Presidency, and in the United Provinces. The extent of cultivation has not been determined. The output in 1931 was unofficially reported at approximately 4,000,000 pounds. The Gujarat yield is said to be exported principally from Bombay, while the United Provinces output is shipped largely from Calcutta. The large number of individuals engaged in the trade make it difficult to secure accurate production estimates and at times figures submitted have been grossly exaggerated. There is no general standardisation of these seeds in India as regards size, colour, cleanliness and foreign matter.



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## Self Determination in Sanitation, Medicine, Law and Order in India

BY

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The relapse of India into the Indigenous ways of maintaining its Health, Law, and Order is looked upon as domestic dangers of India by the "Daily Post." of Bangalore and the "Indian Empire Review" is the scripture on which its fears are based and Sir T. H. Symons is the Oracle in this case.

This "Oracle of Delphi" knows personally "many of the licensed Medical practitioners relapsing to the accursed Ayurvedic System, built upon no scientific foundation whatever." Therefore Sir T. H. Symons enters an emphatic note of warning in this connection and declares that the "Methods of the Ayurvedic System" are at least a century behind the present day standards of medical science as practised in Europe, America and even Japan and that the system has no place for Bacteriology, Vaccines, or even the usual methods of medical examination of the patient, etc., etc.

Let us see what this boasted scientific foundation of Allopathic system is. A leading article in the famous medical journal "The Lancet" of London says :—

*"The Association of medicine with other sciences cannot be taken advantage of by the students, whose burden already*



*presses so heavily.* There is a lack of continuity between the teaching received in the school and that received in the wards. *There is no agreed opinion as to the standard needed either in general or scientific training* before professional courses are started and there is no agreed opinion as to the equipment which the examiners should expect from the students presenting themselves for the final tests."

"The Daily Post gloats over the fact that after the so-called Montagu-Chelmsford Reforms, the young men of India betake themselves freely to England and Europe in order to study for the medical profession and that this is an epoch-making incident after the war, redounding to the eternal glory of India. Mahatma Gandhi wrote in his characteristic way to one of these medical vagrants to Europe that he had better remain in India and perfect his methods of cure by Heliotherapy rather than have the luxury of studies in Europe as the savants of Europe never went out to learn their methods of Research.

Speaking of Heliotherapy, it must be noted that although this method has been hailed as a discovery from Europe it must be remembered that "Sun" was recognized as the source of Health and Energy as well as of cure by Ayurveda centuries before. Sir George Newman, Chief Medical Officer in the Ministry of Health, has declared that the time of the medical students is wasted in teaching every kind of advanced operation, very few of which the student will ever have to perform. The system turns out too many theorists with a mass of undigested detail. *The excessive maternal mortality is due to the ineffective training in Midwifery.*

Yet the British Medical Council discontinued recognition of Indian Medical Degrees for ineffective training in Midwifery in the Indian Universities, forgetting that Medical training in Britain lacks practical knowledge and is more ineffective and absolutely defective for all practical purposes of medical practice in India.



The British Medical Savants are living in glass-houses of imperfect medical knowledge and throwing heavy stones at others. Let it be proclaimed in no halting terms that the indigenous Medical System of India, namely Ayurveda, having nothing to dread from these inmates of "Glass Houses", any amount of stone-pelting cannot break even a window pane of its plinth and foundation.

Hundreds of theories have come and gone and Ayurveda flourishes like a good brand of whiskey introduced into India some hundred years ago. The lack of standard in medicine is more applicable to Allopathy than Ayurveda, for it has a standard Tridosha Theory to grapple with all conditions and fluctuations. The Indian Medical Service men have had their plenary Sessions in India and with the awakening of national consciousness in India, their civil practice is dwindling almost into nothing. They are irate over the prospect and feel doubly irritated in view of the Doctors' lament in England, where Harley Street men are unable to pay rents due to "Slump in Medical Profession." British medical circles are re-echoing the laments of the medical conference in Paris that it is becoming more difficult for Doctors to obtain a living in the leading countries of the world. Each Doctor, it is estimated, needs a field of 1400 people, in which to work, if he is to obtain a reasonable living. Yet in most leading countries of the world, the doctor has to be satisfied with considerably less. England now gives an average of 1069 persons per Doctor, and if there is complete intellectual resurrection of India and all round intellectual emancipation of Indians, the British Medical Services and Doctors have to go "Home" and England cannot give an average of even 500 persons per Doctor like the most medically overcrowded city of Vienna, where there are only 25 people for every Doctor. Earning a living for British Doctors in England is a great difficulty and therefore they spread over the



"Empire" in quest of living and if there is Self-Determination in Sanitation and Medicine in India by relapsing to Indian Medicine, the British Doctors see their "Occupation gone for ever" and therefore "The Indian Empire Review" dreads the gruesome prospect. The mere pooh-poohing of Ayurveda shall not mollycodle it any more than all the vituperation of hostility cannot kill an enemy. The glorious medical system of the Hindus is virile enough to withstand all the onslaughts of authority.

After all, the popularity of the system is due to its intrinsic merits and cheapness to suit Indian purse. No amount of sophistication, passion and prejudice shall be able to convert the masses from Ayurveda into Allopathy. State encouragement, patronage, scandal, vituperation have all been tried to supplant Ayurveda and make it as dead as the Dodo, but it is quite green in Indian mind, ever so perennially, as to absorb all the shell-shock of foreign attack and insidious poison. The greatest Savants and Scientists of the West have sung poems of praise on Ayurveda and it was Sir Pardey Lukis, Director General of Indian Medical Service, who chimed the same warning that the medicoes of the west should not run away with the idea that all the medical wisdom is bounded over by the ring-fence of Allopathy.

"Experimental Quackery" is the term of appellation, given to Allopathy by Homeopaths. The Allopathic system left a wide hiatus in the land of its birth and fostering for Homœopathy to thrive. Various are the creeds and colours of healing, merrily going round in the stronghold of Allopathy. Heliotherapy, Chromo-Therapy, Hydropathy, Electro-Therapy, Bone-Setting, etc., etc. are all proclaiming the truth of the saying that Allopathy is not the last word on medical wisdom. Yet it is a Pan-Allopathism that has blindfolded the partisan to attempt even at any remote extinction of Ayurveda in India.



Japan may have wiped off its own medical system, if it had any at all, and adopted Allopathy in toto, to merit kudos from occidental crocodiles. It was a "Tabula Rasa" and Allopathy struck its characters deep down the plank of the Japanese table. But India, eternal India, never dying India, is not dead. Long Live India!

The health of India is the poorest in the world under the enlightened British administration; morbidity and mortality statistics are appalling in the country. The Indians are short lives; maternal and infant mortality is the highest. What are the benefits of Allopathic regime? Short Life, Sickness, Heavy Maternal and Infant Mortality, sweeping epidemics, etc., etc. What tangible, constructive improvement on the Ayurvedic regime of old has the reign of Allopathy demonstrated? Ayurveda has been a safe, sane and sure method to suit Indian conditions of life. The pot calls the kettle black and to the disinterested on-looker both are black. In no part of the human world will Self-determination be dreaded to be domestic danger and to view it as such is no normal function of a mind in any country under God's glorious canopy.

Lamentable indeed are the state of affairs and sore straits to which India is driven to contemplate Self-determination as a menace. The intellectual resurrection of India is the dream of all the ardent patriots of India and that will come to be realised more with the intellectual emancipation of the Indian nation. No well-wisher of India shall cry a halt to this liberation of the mind first from the foreign thralldom. India is good, Indian wisdom is good, Indian philosophy is good and Ayurveda is good. This is the creed of modern India.

No use of trying to ask the advancing waves of nationalism to recede and even Canutes will be frustrated in the task. In the famous words of Abraham Lincoln, India says to its detractors, "You can fool all people



for some time, you can fool some, people for all time ;  
You cannot fool all people for all time."

The efforts at postponing the day of self determination for India may succeed for a short while, but sooner or later and sooner than later all such camouflage shall fail miserably. Modern India, intellectually emancipated India, says to all aliens in Science, Medicine, Politics, or Religion, "If a British doctor refuses to declare himself a medical practitioner of India with sympathy for the glorious medical system of the country, he had better clear out. The new India will only allow one class, Indian Medical practitioner. As such only, will you be recognized ; on the acceptance of such a qualification will your future depend. It is only on terms of equality between Allopaths and Ayurvedians that you can practise in this country. You must be proud of India and its medical system and you should endeavour for the betterment of the land of your adoption. India gives you work and therefore you should never abuse it."

The Ayurvedic System of medicine has the best possible scientific foundation for it and only contempt, prior to investigation, has kept its traducers in everlasting ignorance of its scientific back-ground. Sympathy and insight will clear the veil wherein it is enshrowded.

Then "Law and Order" and its guardian Angels "The Police." The police is the army of Peace and its close association with the Military connotes a State of War. Why should the Police be closely knit up with the Army ? To parade the material strength of the Government ! Perhaps ! No occasion is missed by the Government to pumper the police and its martial character is to be brushed awhile by Military Associations.

That the police must crave close co-operation of the Military is proof positive of its lack of intrinsic worth. A land, where the forces of peace are seeking the aid of the engines of war, is fallen too low indeed.



That Local Self-Government must be deemed incompetent to administer the Army of Peace and ever remain in the leading strings of the war-lords smacks of militarism and Democracy can come only in Greek Calends to India. Daily paper and the lay press are not the proper place to discuss the relative merits of Ayurveda and Allopathy and therefore I refrain from handling the relative merits of the systems here from technical view points.

I may state, (*en passant*), that an Indigenous Medical System suited to the economic and social genius of the people is any day better than any theoretically perfect medical treatment from without.

Countries in the vanguard of progress have never come to their enviable position by adopting alien systems in toto. Intelligent adaptation is commendable but blind adoption is reprehensible. After all is said of any medical system, Eastern or Western, the physician is the dominant factor. The value of a system consists in the comprehensiveness of its diagnosis. "The Art of Medicine", Lord Dawson of Penn said, "embraces the understanding of illness, and if the physical and biological sciences are given a too excessive attention, they are apt to give to medical thought a too pronounced objectivity, we need, to take count of the whole man. What of personality and its infinite variety? What of environment? A man's physical and mental make-up, his inborn trends play no small part in the clinical picture he presents. To effect a cure, both aspects of the illness must be studied."

For the Indian environment, Ayurveda is the specific system *par excellence* and works very well and quite admirably. There must be co-ordination among bodies which represent varied aspects of medical knowledge in India, such as the basic sciences of Medicine, Surgery, Obstetrics, Ayurveda, Education and Administration.

It is a standing reproach against the medical profession that they do not establish means of giving collective



advice when the Art of Government increasingly depend on medical knowledge. Much of their valuable energy is frittered away in pulling the legs of the other systems of healing and "doctors always differ" is a contemptuous slogan levelled against them as a jeer.

India can never be over-doctored like the city of Vienna and there can be no dearth of occupation for the medicals of all schools of healing.

But the state must leave the medical profession to find its own Self-determination and "Hands Off" the Medical Department.

When the Government ceases to be partisan to anyone system of Medicine, the inefficient system in the lot shall have its shortest strife.

Partisanship, Passion and Prejudice have no place in healing, as the cure assesses the respective worth and value.

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## Original Articles

### MAHATMA ZANDU BHATTAJI .

BY

VAIDYA BHANUSHANKER P. SHASTRI,

*Ayurvedic Practitioner, Wadhwan, C.S.*

No apology is necessary for a short account of the life and character of the late lamented Vaidyaraj Zandu Bhattaji as no attempt has yet been made in that direction in English and this desideratum is, perhaps, for the first time being supplied by me to the English-knowing public.

Notwithstanding the limited space at my disposal, the temptation to review his laudable attempts towards the revival of Ayurveda and other cognate topics is too strong to be resisted by me, especially when in his times such a thing as the Revival of Ayurveda on modern lines, such a prophetic overture was quite unprecedented and unheard of in Kathiawar. His ceaseless activity for the cause of Ayurveda and the uplift of the profession entitles him to the title of 'Apostle of Ayurveda in Kathiawar.'

I frankly express my indebtedness for materials to my friend, Mr. D. K. Shastri, upon whose authentic and documental biography in Gujrati my remarks are mainly based. What I present to the reader, to make my position clear, is my *study* of the life of the great philanthropist practitioner from all available sources and not a translation of any extant vernacular literature bearing upon the same.

Some hypercritical objector would suggest that presenting such sketches would be simply wasting time, energy, and space when Ayurvedists have made no radical progress since the times of original authors like Charaka and Sushruta. So why waste words on the dead science of Ayurveda and its moribund votaries in these days of change, progress, and research? The argument, it will be seen at once, involves a stupendous fallacy. *Si vis tibi omnia subjuicere subjuice to ratione!* Ayurveda, even in its present decadent condition, is a progressive science and so was it in the past. Its activity was never at a stand-still. To condemn the subsequent Ayurvedists as plebeians would be attributing



too much to the hoary 'sages' of Ayurveda in our passionate ardour for their uncommon achievements. The sages, however, never arrogated everything to themselves, putting an implicit ban upon further progress and research in Ayurveda. It is an erroneous view to hold that later Ayurvedists contributed nothing to the science of life. Even the modern ones keep up to the letter and spirit of the ancient tradition and none can deny them their due share, however humble it may be. From the 'pre-historic times down to the present century, Ayurvedists, however hampered by internal and external reactions, have kept up the torch of Ayurveda burning—a fact which even its worst critics cannot shuffle, despite their vain attacks on the indigenous system of medicine. Some sort of empiricism there is in both the eastern and western systems of medicine. "The Ayurvedic system has its advantages as well as disadvantages. The Ayurvedic literature is based on science and *is not a mere collection of empirical experience*. The study of the Ayurvedic system, if it will not do anything else, *will act as a corrective to the quackery of the modern time*" remarks Dr. Sumant.

We should be proud of our past, however imperfect its achievements may appear in the light of great strides in medicine. Perfect and imperfect are only relative terms and not absolute. We shall, most probably, go down to posterity as imperfect and that should make us reasonable and charitable in judging the past. The stones that lie low and even out of sight at the foundation are as important as, nay, more important than, those at the summit in the construction of a large edifice.

This much, I hope, is sufficient for the preliminary purposes of the following sketch.

The late Mr. Karunashanker Vitthalji, better known as Zandu Bhattajee, the name anticipated in the heading of the sketch, was a Prashnora Nagar by caste. In Kathiawar and even Gujrat, his auspicious name is still recalled to with reverence and the memory of his disinterested service to humanity is still green in the mind of many an admirer of his with its ever-changing, ever-swelling version : but India, beyond the Bombay Presidency, knows very little or next to nothing of this famous Ayurvedist of Kathiawar. His is a unique personality in the civic, social, and Ayurvedic annals of Kathiawar. He is one of the brightest stars in the galaxy of prominent Ayurvedists and Kathiawarees of his time and one of the rare gems of the court of the late



"well-meaning and liberal". Jam Thrae Vibhaji of hallowed memory. Besides, he was a great original thinker in problems that faced him and were ahead of the times in which he flourished. We have in him the representative pioneer of the nineteenth century Kathiawar in self-sacrifice and social service, leaving aside, for a time, his unremitting efforts towards the resuscitation of Ayurveda, the science of life, the oldest system of medicine in the whole world. Hence his life and character, naturally, commend themselves to a wider attention and appreciation. Kathiawar still honours his name with the title of 'Mahatma' and rightly so, because he was an *amicus humani generis*. It is beyond the pale of this sketch to do even moderate, not to talk of full, justice to the high ideal for which he lived and died.

Zandu Bhattajee's ancestors were originally Pauranikas by profession. The surname 'Bhatta' in Kathiawar is suggestive of the Pauranic profession; 'jee' being a mere suffix of honour. The profession means expounding the tenets of Pauranism as derived and modified from the Vedas and embodied in the Bhagavat and other seventeen Puranas with a narration of holy legends interspersed with sermons therefrom before an orthodox audience assembled in a temple or some holy place. It is a semi-clerical profession resting upon a sound literary foundation, viz. proficiency in Sanskrit.

It was one Vaidyaraj (an equivalent of Kaviraj or Ayurvedic practitioner in this part of the country just as 'Bhattajee' seems to be, most probably, of 'Bhattacharya' or 'Bhattacharjee' in Bengal) Deenmaniji, the physician attached to the court of a certain Mogul emperor of eighteenth century, not yet identified, who was responsible for introducing Ayurveda into the Bhatta family. Deenmaniji accompanied one of the princes of this obscure emperor while the latter encamped in Cutch. Yielding to the voluptuous propensity of the prince, the said Vaidyaraj subjected him to a rigorous course of drastic (or poisonous?) aphrodisiacs for 21 days. The rash prince disobeyed the rules and regulations which such a drastic measure necessitated and ultimately threw himself and his physician in a precarious situation. Sure of the prince's imminent end, Deenmaniji somehow managed to escape from the encampment. He crossed the Cutch channel and landed in Jamnagar where he was hospitably received by the then living ancestor of Zandu



Bhatajee. This, semihistorical legend has some glaring gaps which are not yet filled up : its former part is shrouded in a mysterious lack of relevant details while the latter one is of topical importance, as the first and foremost landmark in the Ayurvedic history of the family. The legend has undergone a noticeable deterioration from its usual passage from mouth to mouth and in vain, in course of my rambles in the mediaeval history of Cutch and Kathiawar did I try to eke out the legend with information independently available from reliable sources. Contemporary history makes clear that the Mugal Subas of Gujrat, direct representatives of the crown of Delhi, sent armies under a general or generals to invade Cutch but none of the recorded accounts tally with the above.

Zandu Bhatajee's father was Vitthal Bhatajee who was well-versed in the Puranas and one of the erudite Pundits of his time. And he was by far the most celebrated Vaidyaraj of accurate diagnosis in Jamnagar. He was a protege of the late Jam Rammalji, the *coer de lion* of Kathiawar and served the latter in the capacity of chief Ayurvedic officer attached to the court.

As a child, Zandu Bhatajee revealed those noble traits of character which were to be fully developed in after life and which contributed in no small measure to his wide fame and popularity. From his very childhood, he viewed the so-called ordinary things in an altogether different perspective and began to translate into action the well known Ayurvedic maxim given by Vagbhatta “स्वाध्वं हिः पराध्वं पराध्वमिति सद्वृत्तम्”—to look upon another's well-being as one's own is the quintessence of good conduct. Zandu Bhatajee's primary Sanskrit education was not of a very high order in comparison with what was in vogue at that time with pupils in the Jamnagar Pathshalas—*schools*—headed by different Pundits. But this much may be said to his credit that he was a well listened-to man and fervently adhered to this habit throughout his life and which seems to have made up the primary deficiency to a great extent. His constant application to his hereditary profession, which put before him the high ideal he was to strive after in course of time, revolutionised his outlook altogether and won for him the second title of the Apostle of Ayurveda in Kathiawar. He began his Ayurvedic study with its theoretical and practical aspects under the tutelage of his father together with the latter's pupils who are all famous in Kathiawar. His education was not confined within the the pages of ponderous



volumes or textual niceties and nonces of secondary importance or vainglorious disputations of sheer hollowness but extended to the bracing spirit of Ayurveda to which no Ayurvedist before him in Kathiawar thought himself called upon to dedicate his body, mind, life and soul together. He did not cling merely to words and meanings but to that which is above and beyond them both—the true spirit or soul of the Ayurvedic texts. Bookishness and idle speculations did not form part of his creed. His heart was seething, as it were, with a burning desire to develop the ancient science to a high pitch of practical efficiency.

By his many qualities of head and heart, Zandu Bhattajee, even in his father's life-time was fortunate to rise in eminence viz. to be appointed as Personal Raj-Vaidya by the late Jam's successor, the late Jam Vibhaji of Jamnagar. The appointment was by no means a bed of roses ; but he rose equal, nay superior, to his new laurels. Contemporary history records that he acquitted himself most creditably on all odd occasions and his behaviour was remarkably marked by fearlessness and common sense. Jam Vibhaji presented "an amazing clash of characters", as pertinently remarks Miss E. Sharpe in the preparatory stage of her biography of H. H. the Thakore Saheb of Limbdi. His versatility of temper, strong likes and dislikes for courtiers and ministers, and gullibility were weak points in his otherwise saintly virtues. "The well-meaning and liberal Jam Saheb had not however strength enough to extricate himself from the intrigues of low courtiers and concubines." The heavy responsibility accruing from the post Zandu Bhattajee held in the court can be easily gauged from the above-given remarks. Jam Vibhaji had, however, unqualified faith in his personal physician who was above all intrigue and petty party spirit. He was not of the type of those notorious courtiers who were "little better than solemn parasites." His words, as a result, conveyed considerable weight, influence, and dignity to Jam Vibhaji's mind which was, intrinsically, as transparent as the waters of the Ganges : all the contaminating filth being extraneous.

Zandu Bhattajee was not satisfied with this royal recognition of his merits. It was only a means to an end and not an end in itself. He took upon himself the task of reviving the then obsolete mass of Ayurvedic treatment as given by Charaka and Sushruta and began to experiment with those lost 'prayogas' in practice with a fresh, unbiassed mind. His enterprise in this novel direct-



ion throws a flood of light upon our practical knowledge and is greatly instrumental in overhauling the whole practice of Ayurveda as it exists to-day in Kathiawar. Treatment, all the pathies are unanimous in their opinion, is a matter of experimentation, guarded by scriptural authority, inference, direct perception, and tradition—the four means of proof or pramanas recognised by Ayurveda, leading up to what we call solid experience. Logical inference must be conformable to the spirit of the text. That can be best illustrated by a process of ratiocination peculiar to logicians. If the spirit of the text be wholly ignored, an emetic like a Madan fruit—*R. Dumetorum*—for example, would be falsely supposed to be a purgative—a *prima facie* which lacks the backing of general experience and the tenor of the scriptures—and *vice versa ad infinitum*. That the Madan fruit and castor oil are an emetic and a purgative respectively cannot be prevaricated by our mere hypothesis to the contrary; for the different actions of them both is a matter of direct perception. And it is actions that determine uses. A vicarious effect in either of them is not deemed impossible owing to a wide range of almost incoprehensible factors involved in patient, idiosyncrasy, administration, etc. Such an accident, however, cannot shake the foundations of pharmacology. (ननु, कदाचिद्वसनं प्रयुक्तं विरेकं करोति. विरेकय वसनमिति दर्शनात्तेषां मिथ्याश्रयः संभवत्येव। न. सोऽप्यश्रय एवेति सिद्धान्तः। *Madhuokosha*.) By an analogical transference of argument, the spirit of Ayurvedic texts is many times ignored in the broad issue awaiting the Revival of Ayurveda by our conservative brethren of the old school or, to humorously remark, Rip Van Winkles of Ayurveda who never stir out of the old text books.

Zandu Bhattajee, under the patronage of Jam Vibhaji who was convinced of the efficacy of Ayurvedic remedies, was given every facility to carry out his plan and a part of the royal palace was specially reserved for the scientific preparation of costly Ayurvedic remedies under the supervision of Zandu Bhattajee. In 1805 he opened an Ayurvedic pharmacy of his own, which is the oldest firm of this kind in the Bombay Presidency. Selecting several remedies from the scriptures, he began to experiment with the materials of research, newly prepared, on patients on an extensive scale. He started a free dispensary for patients to further his research and experience.

Ayurvedic practice at that time was in its infancy and the profession was not an independent profession by itself but was



still a by-profession of dormant potentialities in Kathiawar. Allopathy slowly but steadily made its entrance into this part of the country in the same nineteenth century and did not wield much influence on people. Really trained Vaidyas were few and far between. No one cared for the uplift of the profession. The then existing practitioners were swayed over by insularity and secrecy of recipes. The profession was condemned as a last thing to be resorted to by anyone. To overcome all these impediments, Zandu Bhattajee opened an Ayurvedic school where students from various parts of Kathiawar came and employed in service one competent Shastri to ground them in Ayurvedic texts. The pupils were supplied with boarding, lodging, books, and all study accessories from his own pocket. This was the first Ayurvedic school of Kathiawar. It was solely a private enterprise and hence its significance should not be lost sight of. Zandu Bhattajee himself did not assume the responsibility of professorship of Ayurveda in its current sense. That undoubtedly rested on the Pundit of the school, while his sphere of activity was to practically demonstrate the theories of Ayurveda with a clinical application of suitable remedies to students. The school had, however, a chequered career: the whole burden of teaching rested on a single Pundit and no more Pundits could be had to relieve him of the undivided task. And ultimately with the passing away of Zandu Bhattajee—the vivifying soul of the school—it stopped and ceased to work. Zandu Bhattajee, up to the last days of his earthly career, spared no pains, left no stone unturned to have his ideal realized. Direct and indirect followers of this school pervade the whole of Kathiawar and some parts of Gujrat. There is now no Ayurvedic College in Kathiawar and God knows when we shall have one there. There are some petty private schools here and there in Kathiawar but all of them lack co-ordination and correlation. Years after Zandu Bhattajee's death, Shastri Popatbhai of Jamnagar tried his utmost to preserve the link, consulted Zandu Bhattajee's son and other Ayurvedists, had an elaborate discussion with the Jamnagar 'city fathers' on the feasibility of the plan, and carried on his work, unaided, with only three or four students for a year or so. Eventually he failed; for such institutions cannot thrive without state-help or public subscription. When will a Zandu Bhattajee be born again in Kathiawar?

For the dissemination of Ayurvedic views and beliefs among



the public, he established an Ayurvedic Hall, named Dhanwantary Dham, where lectures were periodically delivered by himself and his colleagues on personal hygiene, seasonal hygiene, rejuvenation, longevity, general sanitation, prophylaxis, etc. His memory will be best cherished by the people of Kathiawar as a great exponent of Ayurveda. Man's life may be prolonged, Zandu Bhattajee held, in strict conformity with the Ayurvedic texts, by means of certain specific rules and regulations inculcated in Ayurveda. He had something of a stastician in himself and was horrified at the appalling death-rate of Indians. And, to remedy this, his eyes, naturally fell on that part of Ayurveda, which exclusively deals with the Prevention of Disease suited to the Tropics,—the richest contribution Ayurveda in its present decadent condition offers to the medical world. As for longevity, he extensively tried with the Rasayanas given by Charaka and Sushruta on a wide range of patients and his experience has something substantial to contribute to our individual knowledge and experience in this respect. His outline of Ayurvedic treatment and selected prescriptions, which may be conveniently called his Ayurvedic Testament to the Ayurvedic profession, is too wide a subject to deal with here. It at once invites a separate thesis which I wish to contribute in future for the benefit of my professional brethren.

None should nurse an illusion that he amassed wealth by his practice; he died leaving a heavy debt behind him. His practice was wide and even wider than that of his contemporaries: but the lucre which it afforded was not commensurate with its extensiveness. His practice fell under the category of social service and hence he neglected self-interest to a fault. He looked upon the profession as a sacred trust and had his own deep-rooted scruples to demand anything from patients, whether rich or poor, unless they pay themselves whatever they like. This may sound an incredible fiction in these days but that was a fact. For the goal of the Ayurvedic science is primarily wide compassion towards, and disinterested service of, the suffering humanity. ( परे भूतदयाधर्म इति..... ) Base motives of self-interest and greed are unquestionably foreign to its original conception.

Zandu Bhattajee was among "the inheritors of unfulfilled renown." A man is not judged by his immediate success or failure in life but by his endless efforts towards achieving the



goal after his heart. His unfulfilled task may serve as an index to our line of thought and action at present and in future.

Zandu Bhattajee was a man of singular self-reliance and self-confidence. He never stooped to meanness or suppliance before any one, however well-disposed towards him, to get himself relieved of his debt, increasing by leaps and bounds :—

“The great never subsist on another’s power and gain,  
The lion subsists on elephants by himself slain ;  
A gift of crores from another gives them pain,  
They earn themselves—their business main.”

*(An adaptation from Bhavavi.)*

At present there are two schools of Ayurvedic thought in Kathiawar, viz. the school of Zandu Bhattajee and that of Bāvābhai. The founders of both the schools were co-students of one and the same guru, Vitthal Bhatta, the father of the former. The school of Zandu Bhattajee lays particular stress upon the scientific experimentation of vegetable and similar preparations as prescribed by Charaka and Sushruta and the verification of the results therefrom on a thorough logical basis. It does not taboo mineral and mercurial preparations that are more current from post-Charaka times in practice. Their legitimate use is not only tolerated but insisted upon where necessary. It never views the vegetable materia medica with distrust or bias. While the school of Bavabhai is characterised by a strong predilection in favour of Indian chemical preparations. The botanical materia medica plays a secondary role in its line of treatment. Indian Chemistry does not ignore vegetable drugs ; but its very conception and evolution presuppose them in Applied Chemistry. The harmonious combination of vegetable and mineral constituents is still a dominant feature of the present-day Ayurvedic prescriptions. Both the schools, as a corollary from above, coalesce on many, if not on all, points. The present tendency is to freely accept and utilize in both the schools (sampradayas). Traditionally I belong to the school of Zandu Bhattajee.\*

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\*This off-hand allusion to my tradition requires some elucidation. My late grandfather, Shastri Ghelubhai, was a profound Ayurvedist of his time and much influenced by Zandu Bhattajee’s school of thought. He was selected as a private tutor for Zandu Bhattajee’s son in Vagbhatta for some time and was paid a remuneration of 30 kories p.m. also. The Gujrati biographer seems to have no access to this piece of information ; for there is



Zandu Bhattajee was born in Jamnagar, the literary place in Kathiawar and passed away, unexpectedly, in Nadiad, the literary place in Gujrat. He adorned one place with his birth and another with his death. His ~~ascend~~ <sup>ascend</sup> survives his end and pervades everywhere.

Now my task is over. Before I take leave of the reader, I eagerly expect indulgence and sympathy from him for the onerous venture I have voluntarily undertaken :—

व्याख्यानमेतदसमं जसमित्यपेक्ष, दूरिस्थतीतरक्तं तु नमोऽस्तु तस्मै ।

जागतुं कोऽपि वसुधावक्तयेऽनसूयः, सन्मामिर्कः प्रयतनं हि यदर्थमेतत् ॥

(M. M. Shastri-Hathibhai of Jamnagar.)

## PROPERTIES OF ORDINARY FOODS AND DRUGS.

BY

J. C. BASAK,

*Doyalbagh (Agra).*

Before describing the properties of foods and drugs, let us consider whether we can remove the defects of the body and mind which we have inherited in this life according to our *sansker*. It is my belief that if we can form good habits in eating and drinking, we can improve our body and mind to a great extent, so I think that it is our imperative duty to improve our body and mind by culture.

Not only the present medical science, but the old *Ayurveda* system of the Hindus have laid down a number of rules for the

no mention of the matter at all. My father, Shastri Popatbhai, was then an associate in study of Zandu Bhattajee's son. It is Vaidya A. P. Pattani, ex-Principal U. P. Ayurvedic College (Patan-Gujrat) who spurred on my father to cultivate Ayurvedic literature. Mr. Pattani is my father's friend-disciple and one of the pillars of the school of Zandu Bhattajee. In appreciation of his almost bi-annual Ayurvedic discourses—tantamount to tuition—I had the good fortune to listen to during my five years' self-imposed apprenticeship under my father in the Limbdi Free Ayurvedic Dispensary, I revere him as one of my gurus, though my regular training in Ayurveda, has, as a matter of fact, rested on my father. Since all my gurus are linked up with the school in their own different ways, tradition makes me belong to the same school of Ayurvedic thought.



improvement of our body and mind. I will now say something about *Ayurveda*. This science has discovered the three subtle fundamental principles or forces in the body, namely, *Vayu*, *Pitta* and *Kapha*. If they are in a state of equilibrium and rightly perform their functions, the body is healthy, but when any one of them preponderates over others and does not act properly, the body becomes diseased. Different foods and drugs act not only on the different organs of the body, but they simultaneously act on these three principles. Climate, temperature, weather and other natural forces also act on those principles.

Half a century ago the allopathic doctors had a crude notion of *Vayu*, *Pitta* and *Kapha*;—they termed them as 'wind', 'bile' 'phlegm'. But such are not the real signification of these terms in *Ayurveda*. According to the learned Kabiraj Gananath Sen, M. A., L.M.S. *Vayu* does not simply mean 'wind' in *Ayurvedic* literature but comprehends all the phenomena of motion which come under the functions of life, or, to be more explicit, the functions of the central or sympathetic nervous system.

*Pitta* essentially means 'bile', but signifies as well the function of metabolism and heat-production comprehending in its scope the process of digestion, circulation of blood and formation of various secretions and excretions which are either the means or ends of tissue combustion; and *Kapha* does not mean phlegm merely, but is used primarily to imply the function of cooling and preservation (heat regulation) and secondarily the various preservative fluids, *e. g.*, mucus, synovia, etc., which are the manifest forms of that function."

As all foods, drugs and natural influences act upon the different parts of the body and the three main functions, namely *Vayu*, *Pitta* and *Kapha* also, they act upon the eight constituents (*dhatu*s) of the body, namely, *rasa* (chyle), *rakta* (blood), *mansa* (flesh), *meda* (fat), *asthi* (bone), *majja* (marrow), *sukra* (semen or ovum) and *oja* (subtle vital fluid). Some physicians did not include *oja* amongst the *dhatu*s. Not only the Indian physicians should have knowledge of the properties of ordinary foods and drugs, but even laymen should know at least some of their properties.

The actions of the foods and drugs have been divided into four classes :—(1) *Rasa* (taste); (2) *Guna* (property); (3) *Birya* (influence such as, heat producing or cold producing); (4) *Bipaka* (changes or transformations of the six *rasas* which occur in the stomach on account of the digestive fire). For example, *haritaki*



has *kashaya rasa*, but in the stomach this taste is changed into *madhur rasa*, i.e. sweet taste.

There are six kinds of *rasas* (taste);—*madhura* (sweet); *amla* (acid), *lavana* (saltish), *katu* (pungent), *tikta* (bitter), *kashaya* (astringent like the taste of *haritaki*—Chebulic myrobalum).

(1) The properties of *sweet* things are:—श्रीतवीर्य (cooling), रसदि धातुवर्द्धक (increases the eight constituents of the body), सत्वजनक (milk-producing), बलकारक (strength giving), नेत्र-कण्ठ-हितकर (good for the eyes and throat), वायु-पित्त-नाशक (pacifier of *vayu* and *pitta*), विषहर (anti-dotes to poison), पिच्छिल (demulcent or lubricating), श्लेष्मताकारक (cooling), प्रीतिजनक (pleasant), आयुवर्द्धक (increasing longevity), पुष्टिकर (nourishing), गुरु (heavy) and भग्नस्थान-संयोजक (joiner of broken parts). It is good for the young, the old, the weak and the injured. It is good for complexion, hair, organs and ओजः (vital fluid). It increases *vayu*, produces स्थूलता (obesity) and worms. Taking of too much sweet things will produce fever, asthma, शूलगण्ड (scrofula) अर्बुद (tumours), indigestion, diabetes and fatty diseases and elephantiasis, occurring on account of preponderance of *kapha*.

(2) *Acid* things are stomachic, जारक (digestive), killer of *Vayu*, विदाही (burning), क्कंदकर (phlegm producer), tasteful, and outwardly cooling. Too much acids produce lethargy, pus, burning sensation in throat, chest and heart.

(3) *Saltish* things are digestive, pacifiers of *Vayu*, increase *Pitta* and *Khapa*, क्कंदकर (phlegm, producer), bring on idleness, are antagonistic to other tastes and make the body कोमल (supine). Too much salt produces itching, leprosy, pimples, विषर्प (erysipelas, bad complexion, and वातरक्त (Leprosy), रक्तपित्त (Hæmatemesis) and अम्लपित्त (Dyspepsia with vomiting and purging) diseases.

(4) *Pungent* things are stomachic, digestive, tasteful, pecify *Kapha*, cure obesity, worms, leprosy, itching, nullify the effects of poisons, produce drowsiness (अवसन्नताकारक), increase वातपित्त (rheumatism) and dry up milk, semen, fat, क्कंद (phlegm), stool and urine. Use of too much pungent things, brings on भ्रम (Giddiness), मत्तता (intoxication), and dryness of गण (throat), तालु (palate) and lips, burning sensation of the body (गणदाह) and (बलहानि) weakness.

(5) *Bitter* things increase *Vayu*, but diminish *Pitta* and *Kapha*. They are रुचिकर (appetiser), दीप्तिकर (Digestive), पाचक (bile-increaser), decrease thirst, itching, कोष्ठ (stool), सूच्छा (fainting), and fever, and लब्ध (increase milk), विष्टा, मूत्र, क्कंद, मेद, वसा च पूरणीधनकर (rectify stool, urine, phlegm fat, pus). Too much use of bitter



things produces headache, *आक्षेप* (convulsions), *मन्वास्तम्भ* (wry-neck), *सम* (giddiness), *मूर्च्छा* (fainting), and other diseases of *vayu*.

(6) *Kashaya rasa* (astringent) suppresses the passing of stools and urine, flow of blood, *व्रणरूपक* (wound healer) *सञ्चकर* (prevents excessive granulations, *lit.* stupifier), *शोधनकर* (purifier), *लेखनकर* (lequifactor, scraper), *पीडनकर* (painful), *रक्तपित्त* (leprosy) and *शैशाशान्ति-कारक* (pacifier of leprous and phlegmatic diseases) and increases *vayu*. Too much use of this taste brings on heart disease, *उदराभ्रान* (flatulence), *वाक्श्रोत्र* (aphonia), *मन्वास्तम्भ* (wry-neck), *अहस्तरण* (exhilaration of the body), *कर्णेन चुम चुम शब्दश्रवण* (tinitus in the ear), *आक्षेप* (convulsions), paralysis, *अर्द्धित* (facial paralysis) and such diseases.

Hundreds of years ago the authors of *Ayurveda* investigated into the properties of vegetable, mineral and animal drugs, recorded the effects of edible plants, vegetables, fruits, seeds, cereals, flesh of various animals of land and water, different kinds of oils, fats, milks of animals, water from various sources, cooked foods, etc., and six tastes on the three fundamental principles (*vayu*, *pitta* and *kapha*), general system of the body and its different organs and seven or eight *dhatu*s or constituents of the body.

The natural conditions of the country and the physique and constitution of the Indians and also the various outward circumstances and influences of the present age have thoroughly changed from those of olden times. It is quite possible that the power of the herbs might have deteriorated in course of 500 or 1000 years. The weak constitution of the men of *Kalijuga* is unable to bear the effect of higher doses of *Dwapara*. Suppose a man of *Kalijuga* is half in length, breadth and thickness of the sizes of a man of *Dwapara*, then the present dose should be  $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$ th of the former dose. Therefore, it behoves the Vaidyas to make fresh investigations in the drugs and foods and their effects according to the present day scientific methods with the help of newly invented instruments and record the results of their observations.

The Indian Doctors who studied in the Medical Colleges of India or England should also take up this important work for the further expansion of their knowledge and for the good of the people with regard to their medical treatment. It is to be regretted that the educated classes of India and private Doctors generally prefer imported medicines of high prices to very cheap indigenous drugs, on account of their ill-founded prejudices and lamentable ignorance of the properties of common indigenous drugs and even their daily used foods. Let them shake off their prejudices and



let them enlighten their mind with knowledge of the properties of Indian drugs and foods. It is better to use easily available foreign medicines than to wait for Indian drugs which are not easily available. But we should try our best to early change our notions and habits in this respect, before we become perfect slaves to foreign drugs.

## AYURVEDIC THERAPEUTICS OR THE SCIENCE OF RASA, VEERYA, VIPAKA AND PRABRAVA

BY

VAIDYABHUSAN PURUSHOTTAMSHASTRI HIRLEKAR,

AMRAOTI

*and translated from his Marathi compilation by Ayurveda-  
charya Pandurang Huri Deshpande, Poona.*

( Continued from our last issue )

Hridya meaning wholesome to the heart is a very important prabhavi property of ginger. The heart is the most important part of the body. Its mould is muscular and so the heart has a specially great power of expanding and contracting or throbbing (Spandanam). Ginger has similarity to the heart in mould and substance. The heart being the chief origin of blood circulation (Rasa Vikshepanam) as also the origin of sensation, if stuntness, greesiness, abnoxious biliousness arise in it, the same are carried on to, and spread up in, the whole body. The heart must, therefore, be quite healthy and active.

In Amavata, many times, the heart is apt to be affected, or to speak more accurately, there is first the affection of the heart and then these disorders take place in the body. For, the bilious abnoxious Rasa (Ama) first gets into the heart and then it is circulated in the whole body, and so it naturally affects the heart. If, however, the heart is strong enough, it is naturally very sensitive and an apparent defect is not detected in the beginning, but if the heart is weak and if the Ama Rasa is considerably disordered, the heart is sure to show signs of affection.



Ginger, as we have seen, is digestive and stimulant and as we saw above, it has similarity to the heart and so it is fitly said to be wholesome to the heart. Ginger keeps the heart clean and refreshed, strengthening it as it is endowed with hot, digestive, purifying and rather greasy properties and as such it becomes heart-tonic.

In all the diseases of Kapha, especially where the Rasa Dhatu is affected, ginger will generally act well.

Ginger is also mentioned as Vrishya (aphrodisiac), but this property of it is not clearly understood. There does not seem to be in it any quality which increases semen. The qualities of purifying the intercellular spaces and refreshing them have also a good effect upon the ducts carrying semen, but that will not go to make ginger aphrodisiac, as only giving sensation would not make a substance aphrodisiac, it must be tonic—producer of semen—at the same time, but the same is not seen in ginger. If giving sensation be taken as the argumentative reason for this quality, we do not understand why that quality may be seen to be working strongly on semen carrying ducts alone.

The powerful properties of ginger will be summed up into (1) curing Amavata and (2) wholesomely working on the heart.

This is the way in which properties of substances can be explained in detail with the help of the principles of Therapeutics or Rasa, Veerya, Vipaka and Prabhava. After taking this theory into consideration, ginger may be briefly described as follows :—

1. RASA :—The Rasa of ginger is pungent by which tongue, throat and stomach are cleansed and consequently the stickiness of the mouth, heaviness of the tongue, wateriness of the mouth, soring of the throat, nausea, vomiting etc. are immediately removed.

2. ANŪRASA :—There is no separate Anūrāsa and so none of its action is separately noteable.

3. VIPAKA :—The Vipaka is sweet which pacifies the burning sensation in the stomach and small intestines (Amashaya and Pachyamanashaya).

4. VEERYA :—Its Veerya is hot, light and rather greasy, the actions of which are digestive, stimulant, diminishing Kapha and Vata and curing diseases from the same. Ginger cures dyspepsia and such complaints due to dyspepsia and indigestion such as loss of appetite, vomiting, nausea, diarrhoea, sprue, etc. so also the diseases from the combined affection of Kapha and Vata, viz., Asthma, Bronchitis, Sleepiness, heaviness, cold, obstruction of



intercellular spaces, aching, swelling, ascites, elephantiasis and piles. In short, ginger is useful in any disease produced by a combined affection of Kapha and Vata (or cold), combined affection of Kapha and Pitta (or Pitta) or that due to the obstruction of intercellular spaces.

5. PRABHAVA:—Prabhavi properties of ginger are:—It is specially effective in Amavata or Rheumatism and also it works healthily on dullness, weakness and uncleanness of the heart. Ginger being stomachic, digestive, cleaner of the intercellular spaces and rather greasy is also a Rasayana (tonic). In this way ginger can be properly described.

The above delineation has been made according to Ayurvedic Therapeutics with full consideration of Rasa, Veerya, Vipaka and Prabhava.

### THE PROPERTIES OF ATARUSHA (AGHATODA VASICA).

Text properties :—

वासको वातकृत्स्वयः कफपित्तास्त्रगाशनः ।

तिक्तस्तुवरको हृद्यो लघुः शीतस्त्वृजित् ॥ १ ॥

याम कामज्वरच्छर्दि मेहकुष्ठचयापहः ।

so also

जसा तिक्ता कटु शीता कामघ्नी कफपित्ताजित् ।

कामजा कफ वैकृत्य ज्वरशाम जयापहा ॥ १ ॥

meaning—The Rasa of Atarusha is bitter, pungent and astringent. Its Veerya is cold and light and it is the remover of (disordered state of) Kapha and Pitta and increaser of Vata. It cures Asthma, Bronchitis, Fevers, Vomiting, Coma, Skin Diseases, Tuberculosis, Scurvy and Jaundice.

1. The Rasa of Atarusha has been said to be bitter, pungent and astringent, still bitter is the most perceptible, astringent less and pungent even so. That is to say astringent and pungent are the uparasa of Atarusha.

2. Vipaka is not separately stated, but by the general rule, pungent is the Vipaka of Atarusha.

3. Veerya is cold and light.

The useful part is its leaves.

4. Properties will be in accordance with its Veerya. But they cannot be properly understood by the mention of only cold and light Veerya. For, this will lead to the calculation that



Atarusha will remove heat and heaviness and will cure diseases that are produced by them. But that is not at all enough.

Atarusha is not only the diminisher of heat and heaviness, but it is the remover of *vidagdha* or spoiled Pitta. By this property, it acts favorably in Raktapitta (Scurvy) and other diseases. To remove the Vidagdha Pitta, coldness alone is sufficient but digestive and purifying qualities are necessary.

Astringent and pungent are two additional rasas said to be contained in Atarusha along with the bitter rasa. Bitter rasa is the producer of cleanliness, pungent is digestive and astringent dries up the fluid and purifies blood and so by the combination of these three rasas the spoiled Pitta is removed without the production of heat and the diseases from this Pitta are cured. Scurvy, Fevers and Skin diseases are produced from this Pitta.

The actions in Asthma, Bronchitis, Tuberculosis and Vomiting are also not of cold and light veerya but of digestive, drying and purifying qualities, which are suggested in the mention of Rasa.

Atarusha's use in Asthma and Bronchitis is not due to its cold veerya; by the severity of bitter and pungent rasas in it, the sputum is purified and removed so as to cure these diseases. The coldness in it means nothing more than not causing burning sensation while accelerating the actions of digestion and purification. Truly, the three rasas would go to show that Atarusha is of hot veerya.

A drug of combined rasas—bitter, pungent and astringent—will effectively act in Abhishyanda-*cleeda*s (spoiled fluid) and vidaha (defective digestion) and Atarusha consists of these Rasas, and so diseases produced in this state such as vomiting, skin diseases, fevers, tuberculosis, scurvy, jaundice etc. shall be cured by Atarusha.

The special powerful (prabhavi) effect of Atarusha is seen on scurvy. The juice of the leaves of Atarusha bears similarity to small blood vessels (ducts carrying Rasa and Rakta) and so its action in diseases of Rasa and Rakta is mainly seen in that particular part. Its use in fevers, skin diseases and jaundice (being the diseases due to defective Rasa and Rakta) is also due to its Prabhava on the particular place. But the disorder of blood in all these diseases is not of the same type. Vidagdha is more seen in scurvy, which is comparatively less and less in skin diseases, jaundice, fevers and tuberculosis; in the last, however, there is rather more snigdha or greasiness and fluidity in it. Atarusha will be effective according to this Vidagdha which being more in scurvy, it is said to be most effective in same.



In tuberculosis when there is the stage of haemorrhage, in fever of the type of Kapha-Pitta Jwara, in Jaundice when it spreads up to the Shakhas (hands and feet), in skin diseases when there is the prominence of Pitta, Atarusha will be more effective than other kinds of these diseases. In Asthma and Bronchitis too, Atarusha will show its effect when there is the combined stage of Kapha and Pitta. Patches in the lungs are healed and Bronchitis produced from those patches will be cured by Atarusha. In vomiting also it will not be effective in its Kapha or Vata variety but in the combined state of Kapha and Pitta.

#### PRACTICAL EXPLANATION OF THE PROPERTIES OF ATARUSHA.

The juice of the leaves of Atarusha will specially be effective in Scurvy *i.e.* passing of blood through nose, mouth, ears, eyes, urinary passage, rectum and through all the pores of the skin. It is useful in Kapha-Pitta Jwara *i.e.* in which there is internal burning, thirst, vomiting, nausea, coma, etc. It will show its effect in that stage of Tuberculosis wherein the symptoms are—low fever, passing of blood while coughing, sputum is thick and sticky and can be spit with great efforts. This juice is instantaneously effective in Bronchitis where sputum is sticky and has become difficult to throw out, cough in fevers, passing of blood while coughing or blood in piles. In the Kapha-Pitta Jwara where there is excessive heat felt from within, absence of sweat, heaviness of the body, a good use of Atarusha is seen as an assistance to other anti-pyretics. So also it helps the medicines prescribed for Anaemia and jaundice where there is swelling, yellowness of the whole body etc. It will be useful in skin diseases where there is swelling, yellowishness inflammation, ulceration, etc. and in vomiting where there is burning sensation with it. In short, it is a valuable medicine giving immediate relief where there is sticky and bloody sputum in bronchitis; an assisting remedy in skin diseases, Kapha-Pitta fevers, jaundice of the Pitta and Kapha type, Anaemia, Preventive to Tuberculosis and heart-disease—really an efficacious remedy in diseases of Kapha and Pitta in combination sprung through the affection of Rasa and Rakta.

Its Rasa is bitter, pungent and astringent, vipaka is pungent, veerya is cold and light, prabhava—specially effective in diseases of Rasa and Rakta. All these can be best understood by the proper consideration of Rasa, Veerya, Vipaka and Prabhava.



## Reviews and Notices of Books

## PHARMACOPŒIA INDICA.

It is, no doubt, highly gratifying to get a copy of the *Pharmacopœia Indica* by Dr. Bose and the promise of more in this very interesting line in near future. In my answers to the *Questionnaire* issued by the *Drugs Enquiry Committee*, 1930, I remarked "It is essential that an *Indian Pharmacopœia* should be prepared to serve as the authoritative work of reference. It is to be based principally on the *British Pharmacopœia* and should contain notices of galenicals suited to our soil and climate. The appearance of a new national pharmacopœia will be considered as an event of considerable interest, for it may reasonably be assumed that it will reflect the progress of the science relating to pharmacy and medicine during the period the materia medica of the West has been cultivated in India. A mere Addendum to the B. P. does not serve the purpose adequately. The importance of such a work as the *Indian Pharmacopœia* would become manifest when it is considered that it will be designed to represent a standard to which medical men, pharmacists, public analysts, chemical and pharmaceutical manufacturers are expected to conform. The appearance of the *Indian Pharmacopœia* must not be considered as innovation. As far back as 1844, the *Bengal Pharmacopœia* was published by Sir W. B. O'Shaughnessy under the authority of the Government. Twentyfour years afterwards in 1868, the *Pharmacopœia of India* appeared, sanctioned by Her Majesty's Secretary of State for India in Council. It was based on the B. P., but it contained notices of indigenous drugs of approved value. I have treated the subject of indigenous drugs and our duty towards their introduction in medical science in my *History of Indian Medicine*, vol. I. pp. 90-99, and I need not repeat it here. In the proposed pharmacopœia, standardised preparations of Indian plants and minerals tested by control laboratories should find a place.

An attempt has been made by the author in this treatise to put his clinical experience to test in his own laboratory. Experimental method is the only reliable method to ascertain the truth of clinical results and the author has spared no pains, as will be seen in the appendix, which shows reports of investigations done in the Chemical & Physiological Research Laboratories of Dr. Bose's Laboratory Ltd. One hundred and sixteen vegetable drugs, twentynine minerals, five animal drugs, pharmacological examination and study of curve-records of some useful indigenous drugs have been considered. Dr. Bose writes modestly about the importance of his publication. It does not certainly profess to be a comprehensive work; but the concise and practical nature of the descrip-



tion of drugs that are in constant use in the Ayurveda is manifest in every page.

If we might make a suggestion in view of a redaction of this useful work, we suggest that more care would be taken in the spelling of the Sanskrit names as foreigners are likely to be mistaken as to the identity of the plants and in the adoption of scientific botanical nomenclature. As regards the transliteration of Sanskrit words, the method adopted in the Congress of Orientalists should be followed. In writing the scientific names of plants, the initials of the names of the authorities should be appended against them.

G. N. M.

#### SWAYATTA CIKITSĀ.

Swayatta Cikitsa স্বাযত্চিকিত্সা—(Enlarged Edition) By Kaviraja Sital Chandra Chattopadhyaya, Kaviratna, of 67 Kailash Bose's Street, Calcutta, Printed by Kanailal Ghosh at the Ruby Press, 43 Radhabazar Street, Calcutta Price Rs. 3-0-0.

This book of 425 pages, written in Bengali, represents the experience of the author who was well known in Calcutta for his success in practice which covered a period of more than half a century. This is the only book of its kind which treats of surgery in the practice of an Ayurvedic physician which certainly is rarely to be met with. It treats of inflammation, boils, abscesses, ulcers, wounds, burn, regional diseases according to surgical principles and also according to methods as current amongst the people who have derived material help from their use. Here we find Udumvaraghrita described for the first time. The Udumvara lotion has been found very useful in surgical cases and is extensively used by Vaidis in their private as well as hospital practice. Many medicinal preparations have been described and can easily be understood even by the public. The book is written in simple language and will repay its perusal by the inhabitants of Bengal.

G. N. M.

### Medical News & Notes

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#### THE FALLACY OF DIAGNOSIS

By Dr. Herbert M. Shelton.

In his recent book, "*Fads, Frauds and Physicians*," T. Swann Harding, M. D., says:

"But the physician declared that no layman can diagnose his own condition correctly. As a matter of fact Dr. Charles Mayo made the proud boast before a surgical congress in Washington, D. C., in 1927, that the Mayo Clinic had attained the phenomenal record of fifty per cent correct diagnoses. This included of course necropsies who died



but about whose ailment the Clinic was diagnostically correct. Certainly few would contend that the snap diagnoses of average general practitioners working alone are right in more than one case out of five. The error on cancer diagnosis with the best facilities at hand is 30 to 40 per cent."

Of laboratory diagnosis, Dr. Harding has the following to say :

"The point is that there has long been and still is a great deal of bunk in clinical laboratory work and the reports thereof. Inexperienced technicians are used too extensively as time savers ; 'routine' or 'complete' tests are required by doctors who do not know what the words signify ; expensive special blood counts, blood chemistry examinations, and other tests are requested by physicians over and over again on the theory that a correct diagnosis will somehow happen, like Topy, and very frequently all this costly (to the patient) clinical examination is gone through with before the patient is examined physically by the physician."

Dr. Harding is not telling us anything new about his profession, yet he would be one of the first to decry the other "healing" professions because they "cannot diagnose disease."

To the layman the physician is a trained specialist who can tell "one" disease from "another" with a commendable degree of accuracy. The layman has been taught that so-called diseases are specific entities with symptoms and pathology that are so clean cut and individualistic that he who runs may read. He does not realize how much alike these "diseases" are and how arbitrary is the differential diagnosis of so-called diseases. Therefore, the first thing he asks of the physician is : "Doctor, what have I?"

Group medicine is the present vogue. Clinical groups are formed composed of specialists for every system of the body. The sick man or woman goes to one of these clinics and is run through the hands of fifteen to twenty specialists each one of which examines and analyses his department of the human body.

Each specialist determines the condition of those organs and parts of the body that have been made the object of speciality and names the deviations from normal which he finds. That is the disease. After the patient has been through the hands of twenty of these specialists, he emerges from the clinic with from twenty to thirty diseases.

What have the specialists really discovered ? They have found symptoms. The nose and throat man finds rhinitis, sinusitis and tonsillitis ; the gastro-enterologist finds chronic gastritis, enteritis, colitis, proctitis and cholangitis ; the genitourinary man finds cystitis and metritis ; etc. etc. Every of these local so-called diseases are but local manifestations of a general catarrhal condition. They are mere symptoms, effects—successive and concomitant developments out of common antecedents. Instead of



recognizing the unity of these many so-called diseases, "*scientific medicine*" singles out individual organs or parts for special treatment or for surgical removal.

The groups now get their heads together and decide what the outcome of your many diseases will be (a prognosis). Their opinions are based on the usual results of their own methods of treating and abusing the local states. Once the patient deserts them and their methods and turns to other methods, their prognosis ceases to have any value. Outside of their own drugged sphere doctors have no right to opinions.

Ours is a world of amazing multiplicity. It is a world of endless changes, increasing divergencies and ever widening differentiations. So broad and boundless is the multiplicity around us that it has been aptly described as a "perpetually multiplying multiplicity."

Back of all this boundless multiplicity is an ultimate *unity*. The sciences approach perfection as they approach the unity of first principles. The *unity* and *continuity* of phenomena have become the corner stones of science. No system of thought or practice which fails to recognize these principles can ever become a science. The order and continuity exhibited throughout nature's processes demonstrate her underlying unity and lawfulness.

Health (physiology) and disease (pathology) do not fall outside the principle of the unity of phenomena. However diversified "diseases" may appear, there are many diseases in appearance only. As an explanation of variations in living phenomena, health and disease are convenient terms, but they are not ultimate realities.

The "modern science of medicine" knows nothing of these principles, but still believes in multitudes of unitary causes, multiple un-unified phenomena, myriads of specific diseases, and in the need for multiple remedies for "diseases." Hence, its confusion, its uncertainty, its gropings, and its failures. It is not science. It is not modern. In its many departments it is a store-house of facts, but its facts are not correlated and unified. These facts are like beads without a string—scattered all over the floor. Medicine today is where chemistry was before the discovery of the laws of chemistry; it is comparable to astronomy before Newton and Kepler. It is on a par with astrology and alchemy. Indeed medical men are still searching for an elixir vitae, a panacea, a philosopher's stone.

Law and order are lacking in all of the various schools of so-called healing. They one and all believe in cures, miracles, magical potencies, thaumaturgic incantations, unitary causes and specific cures. In all, save their modalities, the drugless schools are allopathic from the ground up. Their whole conception of life, health, disease, cure, treatment, etc. is allopathic; and this means, in turn, that their conceptions are essentially the same as those of the savage medicine man.



Diseases are regarded as active entities, inherent, definite, causative entities, producing, by themselves, observed effects. Treatment is ostensibly a warfare upon disease. Actually it is a war upon the body and the forces of life.

There are two general processes in so-called disease—namely (1) a process of degeneration brought about by the concerted action of all the impairing influences which come in contact with the body, and (2) the vital self-defensive struggles to throw off these impairing influences and to repair the damages they have produced in the body. The degeneration represents a retrograde metamorphosis or downward evolution, and tends towards dissolution. The defensive reactions or processes are one with the reaction and processes of health—they are vital or physiological processes, intensified or modified to meet the emergency, and tend to save life.

"All acute diseases are crises of toxic saturation," to use Dr. Tilden's words, and should all be 'treated' without reference to names. Back of the symptoms, the symptom complex, the 'specific disease,' the endless transition, flux, diversity, complication, differentiation and multiplicity of manifestation lies the eternal and universal principle of unity.

The human body is a complex organic unity, is a "unitary community," as Virchow said, in which all parts co-operate towards the accomplishment of an inner and immanent purpose,—namely, the unfolding and maintenance of a perfect physiological standard. Its movements in "disease," as in "health," are the outworking of inward power of adaptation which seek always to adapt the living organism to its environment. For the energy of the body, always and everywhere very unlike in its modes, is ever the same in principle and purpose.

While any whole is evolving, there is always going on subsidiary evolution of the parts into which it divides itself. This is true of the totality of things made up of parts within parts, from the greatest down to the smallest. We see this plainly in any physically cohering aggregate, such as the animal body. While it is growing larger and assuming its general form, each of its organs is doing the same. We recognize these organs as necessary groupings and differentiations to facilitate the adjustments of the organism, and we recognize, also, that these organs are not different existences, but are component parts of one unified, correlated and interdependent organism. We know that the evolution of the organism and the evolution of its various parts do not represent several kinds of evolutions, but one evolution going on everywhere after the same manner.

Properly applied, analogical reasoning is capable of helping us to understand many things and may be of service to us in arriving at the truth. However, no analogy can go on all-fours and it is necessary in considering any analogy between the development of the body and the



development of disease, to keep in mind that disease is not an organism, not an entity, but merely a widening and increasing condition.

Evolution, like many other loosely employed by science, has no definite meaning. Pathological evolution, as I have defined it, is the mode of educing the extension and completion of the process of degeneration and may fairly be applied to the aggregate of so-called diseases always presupposing that the reverse metamorphosis cannot take place without the continual activity of causation.

The more I study the manner of the evolution of diseases, the more I am impressed with its unity, even in full view of its multiplicity of forms and manifoldness of stages. All the diseases of the nosology are but an aggregate of evolutionary results, which, while they appear to the superficial observer as specific and independent entities are parts of one unified whole. Disease in many parts of the body does not represent many different kinds of evolutions, nor yet, many diversified causes, but one evolution going on everywhere after the same manner. "Diseases" do not exist *sui generis*.

In each type of disease, as in the aggregate of types, the multiplication of effects has continually aided transition from a more homogeneous to a more heterogeneous state. In a succession of "diseases" from a "lower" (simple) to a higher" (complex) type, and a consentaneous greater degree of complication, many factors cooperate in effecting the pathological evolution. There are varieties but not species in disease.

Dr. Rabagliati thinks that there are "two great lines of the development or evolution of diseases." Tracing these he says :

"In one, the sequence of events is indigestion, heart-burn, acidity, the occurrence of watery blebs or blisters on the lips or tongue, sore throat (tonsilitis), acne of the skin, rheumatism (initis, I have ventured to call it—congestion of connective tissue generally, lymph-congestion rather than blood-congestion), constipation, bronchitis and broncho—pneumonia, pneumonia itself, scanty high-colored urination often accompanied by a heavy deposit on standing, insomnia, eczema, and apoplexy or cancer. In the other we have indigestion, fuliness and weight after eating, faintness, relieved immediately by frequent eating, and remotely aggravated by the same, enlargement of glands in the neck, the watery blebs on the neck mentioned above, free urination without deposit of precipitate, tendency to free perspiration or sweating, the occurrence of diseases in a joint such as the knee, hip, elbow or ankle, anesia (thripthemia, or catatribemia rather it should be called), pallour and attenuation, feeling of general or frequent fatigue, *pelosis* or pronene as to become black and blue on receipt of very slight or unremembered injuries, flushing followed by coldness, lameness of hands, rheumatism, diarrhea, pleurisy and tuberculosis."

—*Nature's Path.*



## • HYPERTHYROIDISM AND HYPOTHYROIDISM

By Dr. Juan Amon-Wilkins.

The study of the glands of internal secretion is one of such intense interest to the student of physiology that a mere review of their functions in health and disease is not sufficient to merit a thorough knowledge of the underlying causes of glandular disfunctions.

The greatest racket of all time, which is allied with the various dogmas of the medical school, is the manufacture and marketing of gland extracts and gland foods. These nostrums are foisted on the public as the long expected draught from the fountain of youth, yet they are nothing but sugarcoated pellets of poison.

I have seen many agonizing spectacles as a result of the administration of these glandular products. One recent case, I have noticed, was a woman whose sex glands had been removed on a promise that her sex life could be reestablished by the marvelous gland medicine. Not only was this a gross deception, but an inhuman and illegal performance of those in whose hands lies the destiny of our lives. The woman in question was visited by the most agonizing disorder that could ever come to any human being. This was a continuous itching of the skin, and twitching of the muscles beyond the control of these very egotists who placed this poor unfortunate woman into that condition, characterized in Dante's infernal dream as the oft mentioned purgatory of those who are wont to believe in it. However, it can be truly said of this woman that she is in such a condition. It is pitiful to see her in her agony. Regardless where she might happen to be when she has an attack of these itching spells she cannot restrain from scratching herself from head to foot.

She became very fat after the removal of her glands, and then she was given another kind of gland extract to control this abnormal fat production, but of course without success.

I experienced another case about a year ago, which, because of successful recovery, should be mentioned here. This woman patient and her husband were my personal friends, but at the time she became ill they did not think of seeking my advice. However, it so happened that I met the husband immediately after one of my radio talks. He told me that he had heard my discourse, and wondered if I could advise him concerning his wife. On investigation, I learned that this woman was being treated by three different physicians. Each of these doctors hailed from different schools. One being an M. D., one a chiropractor and the other one an osteopath. Each one treated differently, according to the teachings of his particular school. Each of these learned men diagnosed differently and prescribed differently, yet their patient was getting worse. One was tried for a month, and as no relief was in sight another was



called in, and so on until they had all done their bit to contribute to this ailing soul a bit of the knowledge of their particular school of healing or treating.

Of course, I am not interested in the treatment they used or any of their findings, because they tried to treat a specific disease instead of seeking to reestablish normal body function or physiology.

I do not want to give the impression that I cured this woman, or that these other physicians could not determine the cause of this woman's trouble, or that it was left for me to come and do this wonderful trick. If I held such an opinion, then I too would have failed to determine the cause. I would be egotistic and presumptuous. However, the fact remains that I was considering the underlying cause of the woman's malady, and my aim was to reestablish normal body function. I did not cure her, it was nature that cured her. No man can cure another, regardless how much he might know of the human body, or the power he may claim to possess.

I will explain the appearance of this woman so that you may understand a typical case of hyperthyroidism. She was very skinny and mentally active. Yet she was a big eater before her breakdown.

Hyperthyroidism means an over activity of the thyroid gland. This condition usually results in a luxuriant growth of hair of fine texture, soft white skin of velvet appearance, small bones, with long tapering fingers. The mentality and nervous system is usually affected in the following manner: Anxious, restless, unstable, emotionally upset on slight provocation, irritability, hot flashes, insomnia, lowered sexual activity, and amenorrhea. Well formed and white pearly teeth, hyperacidity of the digestive tract, diarrhea, constipation, vomiting and indigestion are all characteristics that are often present when there is hyperfunction of this gland. The heart and lungs may also show what is known as tachycardia or abnormal rapid action. Irregular heart action and rapid breathing. Metabolism is greatly increased, that is, the burning process of the body is highly activated, so there is rapid wasting away, and the body weight decreases in exophthalmic or simple goitre.

In hyperthyroidism the child is overstimulated. They are very susceptible to sickness. The thyroid gland regulates metabolism, therefore the health of the child depends upon the normal activity of the gland. A healthy child with good resistance has a good thyroid.

In considering any disfunction of the human organism, we would first seek to determine its cause. To treat effects without removing the cause would be like spraying the bugs on a tree that were living in an impoverished soil.

Let us examine this case under consideration. Let us seek for the cause of the over-active thyroid. What caused it to become over-active? This is what was determined on observing that the trouble was hyper-



thyroidism. She said that when she was a girl, she was taken to the hospital to have her appendix removed at the advice of the physician, and during the operation it was seen fit to remove her generative glands. This story was given after she was told her thyroid gland, which was somewhat enlarged, was not the real cause of her trouble, but that her sex glands impaired the thyroid. The breakdown was hastened by overeating, the use of candies, condiments and bad food.

Whenever there is an ovarian disturbance the thyroid is called upon to help carry the load. This, continued over a period of years, will cause an over-activity of the thyroid until it breaks down.

In HYPOTHYROIDISM or under-activity of the thyroid gland the condition is just reverse,

In this condition the characteristics are loss of hair, brittleness and scanty growth. The skin is dry rough and thick and in extreme cases dwarfism, small stunted formed bones with thick club like fingers, impaired mentality and imbecility are observed and there is an apparent lack of initiative, lowered sex activity, amenorrhea, constipation, poorly formed and irregular teeth, delayed dentition, low blood pressure in some cases, slow heart action, lowered metabolism and obesity. This condition is principally responsible for the backwardness in many children. There is exaggerated mental sluggishness. Such children become fatigued easily over physical or mental work, are very sleepy and slow in their movement, they yawn over their work, get up late and dress slowly. Very often these children are chided and scolded and called lazy. How stupid, when the real trouble lies in an abnormal thyroid.

Crowley, the executed criminal who slew a New York policeman was a typical thyroid type. His mental capacity, as far as reasoning was concerned, was inhibited through a sluggish thyroid gland. Many of our criminals have been made so not by choice but principally due to an abnormal condition of either the pituitary or the thyroid gland, incited by conditions and circumstances conducive to their criminal tendencies. If children were given a psychological examination during childhood in order to determine their physical condition, later developments of abnormal and criminal tendencies could be averted, if they were placed in an environment conducive to natural living and constructive thinking.

I look forward to the time when men will not be convicted of crimes committed until the history of their lives be investigated to determine the predisposing factors for their criminal actions. Of course, very few of our modern gangsters and criminals have had a proper birth and the normal environment for their rearing. Society is more responsible for the breakdown of law and the multiplication of gangsters and our criminal youth and the prevalent and most horrifying crimes of kidnaping, rape and murder existing throughout America. Our unscrupulous political



leaders who are governed and dictated to by selfishly scheming political organizations are the fathers of our present crop of gangsters.

In order to remove the cause of any abnormal condition, whether it be of society or the human body, the method is the same. We must search for the underlying cause.

In the case of hyperthyroidism such as we discussed before, what would be the logical solution in order to bring about a cure? In the case cited, abuse of the thyroid gland by the removal of one of the sex glands and the abuse of the digestive organs by the intake of demineralized and denatured foods which charge the blood stream with wastes and burden the organs of elimination, played havoc with the thyroid gland, the thyroid depends upon the constant replenishment of the various mineral salts which contribute towards the healthy maintenance of that organ and the manufacture of the thyroid secretion which in turn maintains bodily balance and the burning processes of the body. This gland overworked and broke down. The most logical thing to do in order to restore its normal function would not be to inject extracts from other dead carcasses, monkey glands and other laboratory concoctions of our lunatic scientists. Their apathetic condition which gives them the incentive to manufacture these various concoctions, and the criminal desires of many of our surgeons who remove the various glands of their patients, especially of our helpless females during their childhood, is due to their own diseased glands which stimulate their brains to commit the various sadistic assaults upon the helpless. To restore normal function the gland must be permitted to rest. Following this period of rest, during which time the elimination of morbid materials from the body has been accomplished, foods rich in the various mineral salts required in the building of the various structures of the body can be given.

This exactly what was done for the case cited above, and as a result this woman was restored to health in spite of the injury experienced when one of her sex glands was removed during her childhood.

It is interesting to know that the same treatment is carried out in both conditions ; hyper and hypothyroidism. However, there are other contributing factors which are far more serious than those acquired thru injury and dietetic indiscretion, namely inherited predispositions known as congenital tendencies to either hyper or hypothyroidism. These conditions are more fatal than the acquired, in any event it would be well to try the naturopathic principle of living in an endeavor to re-establish or induce normal body function.



## THE CAUSE OF DISEASE

By Dr. J. Douglas Thompson.

Millions of people to-day are ailing throughout the world. They little realize that wrong diet and food combination and the improper control of their mentalities are causing for them a tremendous amount of distress that is upsetting their entire lives and making them victims of the "grim reaper."

So much is heard about disease these days, but so little is actually known among the average individuals, that the above title is certainly a timely one. Disease, as you perhaps do or do not know, is manifestly the same in all cases, irrespective of which one of the many hundreds that you might become afflicted with, and the reason for this is because of the fact that old Mother Nature has caused this to come about in order that you might receive certain warnings from her, which, if heeded, will give rise to the over-coming of your diseased condition and the return of your health. The only difference, of course, is in the organ which becomes afflicted.

### HOW DISEASE DIFFERS

For the sake of illustration, let us say that your body is, comparatively speaking, like a gigantic railroad, where all of the trains must start out on its main line, but yet divide into many, many branch lines to reach a given destination. So let us say that we all start out in life at the station of Good Health, on the road to Wealth, to reach the city of Happiness, Joy and Contentment. We en-train at the station of Good Health which is the condition that everyone enjoys when he is born. As your train of good health gets under way and you are off to your flying start, you feel very much convinced within yourself that you are well on the way to someone of the cities, whether it be the city of Happiness, Joy or Contentment. But as life goes on, and you become more accustomed to its routine ways, you also become extremely interested in the various branches that this railroad has.....for in other words you get tired of traveling on the main line, and so you leave the main line train and start taking one of its branch line trains. For the time being you sort of enjoy the change, as it were. But as time goes on, it begins to tell its tale, and you too get tired of traveling on the branch line. The farther away you travel, the farther away you come from your health and happiness and the things in life that you were meant to enjoy, until finally you reach the city of Poverty, Disillusionment, and all of its many other associates. As you de-train in this city, your eyes receive a most disappointing sight.....for, instead of happiness, joy and contentment, you find just the opposite, and see sickness, sorrow, poverty, misery, and disease in its place.....and so it is with people today, on starting out in life. When you start out as a baby your mother watches over your diet, just as carefully as she possibly can. You are fed a very well balanced



diet, a special formula.....but as time goes on and you grow up, you feel that you know better than your mother and insist upon electing your own food combinations, with the result that your lack of good judgment and common sense causes you to suffer the consequence, and before you know it, you are afflicted with a diseased condition.

#### OLD MOTHER NATURE'S PENALTY

"Why is it?" you may ask, "that if all disease is the same, it afflicts the liver of one human being.....the heart of another.....the kidneys of a third.....and the lungs of a fourth?" Let us arrive at the supposition that you have asked this question, and in order to answer it, we must first of all tell you the fundamentals of good health. The body is composed of sixteen tissues. All of these tissues must be fed certain types of nutrition, according to whatever Nature requires of them. For instance, your bones require lime.....your blood requires sulphur, iron and phosphates.....your hair requires silicon.....your white blood cells require magnesium and iodine.....and so it goes on. It is because of these sixteen different tissues, necessitating different types of nourishment, that kind old Mother Nature has given you the best medicine chest in all the world.....the foods that you eat.

#### HOW THE BODY REBUILDS

The foods that you eat contain all of the nourishing, repairing, and rebuilding elements that the body necessitates, and these sixteen different elements which go to feed these various tissues, are also named according to the type that they represent, their names being: phosphorus, lime, magnesium, chlorine, carbon, iron, sodium, silicon, potassium, sulphur, manganese, iodine, oxygen, fluorine, hydrogen, and nitrogen. Each of these sixteen different chemical elements must be fed to the body through the foods you eat, to nourish in turn, the sixteen different kinds of tissues that your body is composed of, and should anyone of them be lacking in the smallest degree, your body will not function properly until that one is supplied to it, and if it is partially starved for any length of time, whatsoever, it gives rise to a condition called disease. A great many of you may be wondering at this time, how these substances are secured, and so we are going to tell you that you, of course, do not eat them as phosphorus or lime, nor drink them as iodine, or by any such name as that, but you do eat them through the five different types of food known to humanity to-day. They are: proteins...starches...fruits...vegetables...and fats. These five group combinations cover everyone of the various foods that you know, such as spinach, meat, fish, etc., and so you see that it is vital that you follow a well balanced diet. In this day and age, where there is so much competition...so much progress...so much need for personal efficiency, it is necessary that your



diet be balanced at all times, for here, no guesswork can be undertaken. The body of man, incidentally speaking, is made up of the same sixteen elements that are found in the soil, and the same holds true with plants. In fact, there is no creature whose body does not contain these sixteen elements.

Now, the foods which are commonly eaten, or in other words, those known as the refined foods, have eight of the elements entirely removed in the process of manufacture. Another four are partially removed, to the extent of seventy-five per cent; and one element, as you no doubt know, cannot take the place of another in your body, nor can the lack of an element be artificially supplied by tonics, etc. They must be given to you in the form that nature meant them to, and so you see that it is vitally necessary that you begin "eating your way to health." Diseased conditions, today, are nothing more than conditions which have been brought on by one's own self through improper eating. Your heart, your lungs, your kidneys, your stomach, and all of the other organs of your body, including your hair and nails, can only live by the nourishment with which you supply them, in the form of the food that you eat. If you give them the correct elements that will nourish them, they will thrive as Nature meant them to.....but if you cheat and starve them, how can they help but develop into diseased conditions, in their frantic effort to maintain the life of the organism that is known as your body? When your blood stream becomes congested with poisonous matter that has entered your body through wrong food combinations, and this in turn has been absorbed into your blood, this morbid matter is eventually fed to the organs. It is this that prevents them from functioning in their normal capacity. This occlusion, as it is called by the profession, is caused by the inability of the blood to pass freely through various parts of the body, which is necessary for perfect health. This partial stoppage results in the breaking down of the various organs and tissues, causing them to merely perform a small part of their actual normal duties. The blood is thicker than it should be, having risen several points in its specific gravity. There is no question in my mind, after twenty-two years of study and teaching, and the practice of my profession as diet specialist and diagnostician, that this condition is brought about through improper eating.....wrong food combinations.....and a lack of the proper mental attitude.

#### HOW THE MIND AFFECTS THE BODY

The secondary causes of disease are those which come from the mind. Take for instance that of anger. It is unquestionably the greatest user of nervous energy, and it therefore follows in consequence to say that the control of one's temper is very necessary for longevity. Anger is especially detrimental to the body if one becomes angry just



before eating or during the process of a meal, or even within two hours after the meal has been eaten. For it takes this amount of time for the food to leave the stomach on its journey through that twenty-eight foot subway called the intestines. Another great contributing factor to disease is that of fear. It is next to the greatest user of nervous energy because this also interferes with digestion. It should be the habit with people who are afraid of various things, to acquire the likeability of these same objects. Poise should be their constant aim and desire. Another contributing factor to disease is worry. It also consumes a tremendous amount of nervous energy, and has unquestionably sent more people to an early grave than any other condition. Not only does it destroy the mind but also the body. Worry has sent more people to the insane asylum and feeble-minded institutions, and has filled our jails and prisons so full that we cannot possibly build them fast enough to accommodate the many thousands who must be placed in them.

No one can face a new day with vim, pep, and with a desire to achieve something new and better.....to become more successful in life.....if they constantly permit themselves to worry over matters whether large or small. The fourth greatest mental factor is that of jealousy. Jealousy is a pernicious state which many thousands suffer from at the present time. People do things when afflicted with a fit of jealousy that they would never do at any other time.....look, for instance, at the number of murders committed.....practically all of them are due to jealousy. Cultivate a disposition which will be even and smooth at all times. Like people for the good that you see in them, but don't envy people or be jealous of them.

There are various other things that wear on the nervous system during the course of the day's activity, such as shopping, overwork, lack of sleep, and standing on one feet for a long period of time. To overcome these conditions, one must first start "eating his way to health".....and then use a reasonable quantity of exercises regularly every morning on arising.

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### A MANUAL OF PRESCRIPTION IN AYURVEDA.

We have received a copy of above for review. The booklet is published by Deshbandhu Ayurvedic Works from 46A, Surendra Nath Banerjee Road, Calcutta by A. C. Kaviratna and is worth the perusal.

The nicely bound-up handy little book explains in simple language therapeutic uses of Ayurvedic Medicines in various diseases and presents a list of important Indigenous preparations.

The book is primarily meant for students, lay men as also busy practitioners as a reference book and is distributed free on application with 2 As. postage stamp.

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## Science Versus Empiricism

The controversy between Science and Empiricism is a long one and it may be fairly asserted that this will last as long as the term knowledge will exist in the lexicon.

Whatever may be understood by these two terms, the superiority of the one or the other may not be judged off-hand without knowing fully the true meaning of them both. It is not our object to uphold one or decry the other, but our object is to unravel the true interpretations of the terms together with their respective claims in the domain of knowledge, so that our readers will be able to form a correct opinion of their own regarding these, so far as they help us in our attempt at securing knowledge.

It may not be out of place here to begin with the logical interpretation of the terms under discussion. According to Logic, Empiricism means knowledge gained by experience while Science means knowledge systematised. It is also held that empirical knowledge becomes scientific when it is found correct at the time of experiment or test, so that, apparently there is very little difference between these two terms, the little difference, if any, being purely academical as opposed to material. Empiricism cannot, in any way, enter the domain of knowledge, which is another name for truth, unless it proves true during experimentation and, as such, no knowledge can be based on Empiricism, pure and simple.

It is also equally certain that a Science cannot crop up and develop all of a sudden without the help of the



much-maligned Empiricism. It is Empiricism that collects the data on which the edifice of science is built. Empiricism secures first-hand knowledge about the mental and physical world which becomes science after passing the test examination, according to various regulations laid down. It may, therefore, be justly said that empiricism is the father of science, although the off-spring is more systematised and refined.

It is now clear to our readers that every science is primarily dependent upon Empiricism and none decries empiricism except the science of medicine. It is rather curious that, while other sciences are always ready to profit by the empirical knowledge of amateurs, the medical science will always fall foul of other systems of healing art without caring to know the a, b, c, of the latter. It is also curious that amateurs' aid to medical science is the greatest and yet the boastings of this particular science and its deridings of other sister systems are the loudest. By the term "Science of Medicine" we here mean 'western system of medicine' and we may be pardoned by our readers if we have unknowingly wounded their susceptibility in any way by our remarks.

Let us now attempt at judging how far the claim of being scientific is applicable to the western system of medicine.

From the outside, nothing seems to be wrong with the Western system of medicine. Its Physiology, Pathology, Anatomy, Surgery, Materia Medica, Clinical methods of diagnoses, etc. are almost perfect and marvels of human art and intelligence, and as such, it appears to be a complete science like Physics, Chemistry, and Mathematics. But what we find in the actual field is very disappointing. While Physics and Chemistry will show you exactly what they profess to be true, the medical science will fail in many cases to prove the correctness of its methods. One wonders why this anomaly should occur in a science. There are, of course, various



reasons for these dismal effects, the foremost of which is its conservatism and consequent dearth of research in the true sense. The British Pharmacopœia is not big enough to cover the treatment for all the diseases extant in the world of ours, while the science itself is not catholic enough to incorporate medicinal products of countries other than those of Europe and America in its body. It has been, therefore, found to the bewilderment of a physician that medicines, which are effective in the West, do not always work satisfactorily in the East.

Another equally important reason is that all the experimentation of the present-day scientific system of medicine is done on body of animals and as the human constitution does not always correspond to that of an animal, it is only natural that universal curative effect of a particular drug cannot be always guaranteed. Again one of the main defects of this system of medicine is its too much attention to the use of drugs, (shall we call it abuse of drugs?) without caring to consider the constitution of the patient. It is often seen that a physician, qualified in the western line, very often treats a disease, forgetting entirely that he is at the same time treating a human being. The result is that complication often arises and the cost of treatment becomes too heavy for the poor victim. It is also not rare that the patient either dies or is left to his fate in a crippled and moribund state. It is then the turn of the Kaviraj or the Homeopath to handle such cases and, curiously enough, they often triumph, in spite of their much-derided unscientific knowledge.

Selection of diet in health and disease is also a great problem to an Allopathic practitioner, as no research has been done up till now in this important field by the Western science. It has been found by experiment that good selection of diet does not only prevent many diseases but can cure as many as 40 per cent of diseases that flesh is heir to, without the help of any medicine at all. Here



also Ayurveda triumphs over all other medical sciences, now extant, just as it surpasses all other systems in the field of treatment, at least so far as treating the *patient* is concerned.

It has been admitted with regret by a great western medical authority that the science of medicine has made very little progress in comparison with other branches of knowledge. The admission of a great American Scholar is also there to the effect that "out of every 5 deaths, the diagnosis of 3 has been found to be incorrect," and that too inspite of all the clinical helps the scientific medicine commands.

We have briefly stated above the inherent defects of the Western system of healing art, but our aim is not to decry or denounce it. Our object is to put a stop to the habit of throwing stones at each other. It is also our object to request our brother Allopaths to study Ayurveda as it is, and incorporate what is good in Ayurveda into their system. We are also trying to remodel Ayurveda in the line of other sciences, purging it off its defects, if any, and incorporating everything good, found in other allied sciences, into it, even at the sacrifice of the fetish, *prestige*.

We have a mind to discuss the scientific aspect of Ayurveda in a near issue, in which we hope to prove that Ayurveda is based on science and not on empiricism alone as opined by men of western medical science.

H. N. C.



## Original Articles

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### THE ARYAN EMBRYOLOGY.

By

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Embryology is that branch of medical science which describes the various changes that take place during the growth of an animal from the egg stage to the adult condition but in a stricter sense may be restricted to the phenomena that take place during its entire uterine life before it is expelled into the external world. Among the many other branches of science, this science of Embryology too had attracted the attention of ancient Aryan Medical Savants and was fully investigated, studied and reduced to sound theories by them in accordance with their famous Panchabhautic and Thridhatu philosophies. An attempt at an adequate discussion upon this deep subject from the standpoint of different perspectives as viewed by different schools of mythology and philosophy of ancient religions leads one through endless paths to metaphysical fields and so the important facts, concerned specially with physiological and medicinal bearings, are presented here.

From the lowest animal to the highest in this universe, both mobile and immobile, *hunger, thirst, excretion, sleep, fear* and *coitus* are said to be the most common physiological functions, all of which, except the last, are associated with the preservation of Life while the last is connected with the progeny of species which may be absent in certain sexless organisms, as microbes, that multiply themselves by the simple process of segmentation without the act of copulation. In higher animals, the higher are the methods of propagation and the unity of two principles is necessary to form a living embryo. In some animals and in most plants, the process of union is performed by the male and female organs in the same individual while in still higher animals and in some plants we have two sets of organs necessary for the production of an embryo in two separate bodies, namely male and female.



The Aryans believed that in this universe, as nothing could be born of its own accord, there must be something as a causative factor which could bring forth its existence and so believed that the whole creation is due to the coming together of *Purusha* (spirit) and *Prakriti* (matter), both being unmanifest, disembodied, without a beginning, eternal, without a second, all-pervading and omnipresent. Of the *Purusha* and *Prakriti*, the former is infinite, immortal, sentient and blissful, while the latter is non-conscious (lifeless) but yet possesses creative force and the three fundamental qualities of *Satwa*, *Rajas* and *Tamas* (goodness, passion and apathy respectively). Some hold that *Prakriti* possesses no separate and independent existence at all and that it is nothing but a manifestation of *Purusha* and the so-called material world is only a series of impressions of *Purusha* himself. Some others argue that though *Prakriti* is helpless and inactive without the union with *Purusha*, it is co-eternal with *Purusha* and when it comes into contact with *Purusha*, it attains the power of activity and procreation, but all agree that the universe is the fruition of the activity of *Prakriti* as a result of the stimulus generated in it as fecundated by *Purusha*. Hence it can be deduced that *Purusha* is the instrumental cause while *Prakriti* performs the function of seed in the evolution of Mahat, contributing the maternal element in the conception, birth and development of the primordial cosmic matter acting as a material cause. The human organism is also considered to be the result of the conjoint operation of these two principles, viz. *Purusha* and *Prakriti*, the former being represented by the father and the latter by the mother.

Man has been recognised by the vedic savants as an epitome of the universe and was described by them as made up of the following twenty five *tatwas* or principles.

- |             |   |
|-------------|---|
| 1. Prakriti | The prime and material cause of the universe.   |
| 2. Buddhi   | Intelligence.   |
| 3. Ahankara | Self consciousness.   |
| 4. Manas    | Mind—Partakes the character of both the intellectual as well as operative organs alike. |
| 5. Sabda    | Sound—the rudiment of Akash.  |
| 6. Sparsa   | Touch „ Vayu.   |
| 7. Rupa     | Form, the rudiment of Tejas   |
| 8. Rasa     | Taste „ Ap  |
| 9. Gandha   | Smell „ Prithvi   |



10.	Shrotra	Organ of (hearing) sabda	} Buddhi Indriyas or Sense organs
11.	Twak	„ Sparsa	
12.	Jivha	„ Rasa	
13.	Chakshu	„ Rupa	
14.	Ghrana	„ Gandha	} Karma Indriyas or operative organs
15.	Vak	„ speech	
16.	Pani	„ apprehension	
17.	Pada	„ Locomotion	
18.	Payu	„ Excretion	} The five Maha bhutas
19.	Upastha	„ Generation	
20.	Akash	Ether or space	
21.	Vayu	Air	
22.	Tejas	Fire or light	}
23.	Ap	Water	
24.	Prithvi	Earth	
	and finally		
25.	Purusha	Soul or self-conscious self.	

It is this Purusha who is but a combination of self-conscious self and the aforesaid twenty four tanmatras that fall within the domain of medical science goes by the name of Karma Purusha.

Now let us see how this karma Purusha takes his birth. In the mode of generation in all cases, an ovum must form the material element which, in its essential part, as conceived by the present day scientists, is a minute structure which at a particular stage of its evolution (maturation) must be fecundated by the union of the male element, the spermatazoon, after it too had undergone the process of maturation. Therefore to form a perfect germ of a new being, the maternal and paternal elements, or in other words, the *Prakritic Purushic* forces should admixture with each other.

In connection with the origin of a new being, Susruta says, "The co-ordination of the four factors, viz. (1) *Ritu* (season, Garbhakala), (2) *Kshetra* (field or the woman), (3) *Ambu* (water, Rasa dhatu of mother) and (4) *Bija* (seeds or the fused cell of the maternal and paternal elements) and the proper observance of concerned ordinances laid down in scriptures are necessary for the germination and the development of the healthy foetus, just as a proper season, a good soil, water consisting of nourishing material and finally good seed, together with proper



care aid the germination of a strong and undiseased plant. It is evident therefore that the embryo is the fruit of the combination of both the maternal and paternal elements (the seed) which are sowed in the proper season (the garbhakala) and grown in the fertile field, viz. the healthy womb of the woman.

Now let us have a bird's eye view of each of these factors individually. *Ritu* or season is the first factor which concerns the woman's menstrual period and the age of the ovum (Artava Bijam). It needs no mention to say that the only common physiological feature among the whole human woman folk, irrespective of caste, colour and creed, is the appearance of menstrual blood at regular intervals according to the habit of the woman from the time she attains her maturity till she attains her menopause, at the commencement of which periods, the woman experiences certain physical and mental changes peculiar to each condition.

The best season for impregnation is believed to be the period ranging from the fourth to the sixteenth day of the commencement of the menstrual flow during which period the uterus is said to blossom and after this period conception is considered to be impossible as the Os closes itself, hindering the entrance of the ejaculated spermatozoon into the uterine cavity. But modern scientists, while accepting this period to be the best possible period, hold that the last week of menstruation, i.e. the pre-menstrual period, is also a good season for same.

#### *Influence of Ritu on the foetus.*

Under this may be considered the age of mother and the relative age of the father along with the age of ovum from the time it has been expelled from its Graafian follicle, i.e. from the day of the commencement of menstruation. In respect to the age of the parents, Susruta injuncts that no man under the age of twenty five shall impregnate a woman under sixteen years, as their organs will not fully be developed till then and if in such cases impregnation takes place, it results in abortion. Though born with life, the child will not be long lived, though long lived, lives a weakling all through. He further dictates that an old man as well as an old woman should restrain themselves from the act of impregnation. Therefore it is evident that the age of the parents also, to some degree, shares the responsibility for the healthy growth of the foetus.



Coming then to the season proper (Garbhakala) as recorded from the appearance of the menstrual blood which has a higher influence upon both the health and determination of the sex of the foetus, the first three days of the woman's menstrual period have fully been abandoned for the purpose of impregnation, as that period is considered as impure and unhygienic; moreover the semen that is cast into the womb during that period does not fecundate as it is carried back by the outward current of the menstrual blood, in the manner that an article, when thrown into a stream, does not go against the current but is carried away with it in the direction of its flow. But granting the probability of fertilization during that period, Susruta holds that the very act of coitus itself performed on the first day shortens the longevity of the husband and the resultant foetus dies immediately as soon as it takes its birth. The same fate, he says, the child born as a sequence of coitus on the second day receives who lives only for ten days after its advent into this world while that child which is the fruit of coitus done on the third day becomes deformed and short-lived and the child in all these three cases, granting lives longer, becomes a Shanda (hermaphrodite), invariably exhibiting traits of effeminate nature. After this period it is believed by the ancients that if a woman be impregnated on even days of her Ritukala would lead to the conception of a male child, while on odd days, a female child will result, as it was thought by them that Artava flows in greater quantities in odd days and in even days in lesser, or in other words, putting it in modern language of Science, the ovum on an odd day will be in a state of anabolic condition and on an even day in a state of katabolic condition.

*Kshetra* or the field. This is the uterus of the woman, in a wider-sense the whole generative apparatus; in short, the whole female organism may be taken under this heading, as the healthy and unhealthy conditions of the uterus generally depend upon the health of the woman's constitution itself. Just as a seed, however strong it may be, sowed in a field of unfertile soil, loses its original vitality and produces a weak and unhealthy plant which die ultimately, so is the result of Sukra Bija (Spermatozoon), however strong it may be, which fertilises the Artava Bija (ovum) of a woman whose generative apparatus or the general health is ill.



*Influence of Kshetra upon the foetus.*

It requires no advance of reason and argument to say that the healthy as well as the unhealthy conditions of the woman have their consequent effects upon the foetus in her womb. If the mother is in a state of sound health, her child also will be so and if she is otherwise, the child also will be likewise.

*Kshetra Proper* (Yoni). Malformations and positions of the organs of generation may not bring forth a fruitful coitus and similarly a woman who suffers from one or other of the twenty diseases mentioned with respect to her organs of generation in the Ayurvedic Science also does not conceive a child. A child conceived in a Yoni that is sordid becomes a hermaphrodite who goes by the name of Saugandhika whose generative organ does not respond to the sexual embrace without smelling the genitals of others.

*Ambu* is the third factor which supplies the nutrient moisture for the foetus. As water with nourishing material is necessary for the germination and development of the seed sowed in a field, so it is necessary for the development of the foetus. The child during its intra uterine life derives its moisture from the Rasa Dhatu, *i.e.* chyle of the mother transformed from the panchabhoutic food she takes, which in the form of blood is transmitted by the child's juice-bearing ducts (unbilical vessels) which are united with the heart of the mother (though not directly but indirectly the heart of the mother is connected to that of her foetus through the uterine vessels to the placental villi which pour their blood into the umbilical vessels which in turn convey to the foetal liver and heart, etc.). This chyle being originated from the panchabhoutic food, as had already been stated, contains all these five elements which are all nourishing to the body of the mother as well as that of the foetus and contributes to the formation and developement of the different tissues of the mother as well as the child by virtue of its inherent property of each, after the food is digested. Therefore if the chyle of the mother is free from ill effects, the foetus also will be free from distempers.

*Bija*—Generally the term Bija or seed is used only for the paternal element, the spermatozoon. But as either Sukra Bija or Artava Bija cannot produce a foetus independently without actually fusing with each other and as only from the fused cell



the development of the embryo takes place, it will not be out of place and will rather be appropriate and reasonable to consider some thing of Artava Bija (ovum) in this connection, as both are equally responsible and equally important in the causation of the foetus and therefore the term Bija in a wider sense is used here for the combined cell which contains the paternal and maternal nuclei.

Sukra or semen is, according to modern western medical science, an albuminous fluid containing 90% fluid and 10% solid substances in which are suspended a countless number of tiny living germs called the Spermatozoa developed from the primitive spermatids after undergoing various changes which are primarily the manufacture of the testicular substance. But the Ayurvedists believe that Sukra is the end product in the transformation of the food taken by the man through successive stages of Rasa, Rakta, Mamsa, Meda, Asti, Majja and finally Sukra which makes its appearance from the time of his acquisition of the reproductive maturity, being latent till then, just as the fragrance of a flower is latent in it during its budding stage and becomes only exposed externally when the flower attains its blossoming period and the growth of the seed begins. This whole process of transformation of food from the stage of Rasa to that of semen is considered to be taking place in the course of a month. This vital seed, though derived from the Panchabhoutic food, is called "Chatuspat," meaning a "Combination of four", because Ayurvedists assume that into the composition of this Sukra, only four out of the five elements, viz. Earth, Water, Fire and Air enter except Ether, water being the predominant element possessing cold as the nature of its potency (Sita Virya). In its healthy condition, Susruta says, that semen is a transparent fluid having the appearance and smell of honey, glossy and sweet. Ayurveda holds that the semen residing every where, instead of a particular repository, pervades all the organism as juice in a sugarcane, and only during the sexual act is collected into its receptacle (testicle) and is dislodged from this by the action of local Vayu or nerve force which aggravates the bodily heat that has already been generated by the friction of bodies and generative organs of the man and the woman. (It may also be ejaculated by the influence of mental feelings of such nature).

*Artava Bija or ovum.* This is the second half of the seed. It is a misfortune that the term Artavam is used as a vague



expression in the literature of Ayurveda, creating much confusion, when it is understood superficially, as it is generally used, to signify the menstrual blood. From the facts that conception is the result of the combination of Sukra and Artava and that it is not possible during the period of a woman's menses, though artavam (in the sense of menstrual blood) is constantly present during that period, it can be inferred that the term artavam, though generally used to mean menstrual blood, is something more than that, as it does not exist after the cessation of the menses (when only, conception is possible), which perhaps was an indistinct conception of the ovum which when ripened escapes from its Graafian follicle in which it is enclosed and causes menstruation.

The process of menstruation commences in a girl from the time she attains her reproductive capacity, the flow of which in its healthy normal state is characterised by the flow of blood which is red like the blood of a hare or the washings of a shellac and leaves no stains on the cloth when washed. The healthy and unhealthy nature of this blood indicates the healthy and unhealthy conditions of the ovum, which is concerned with the menstruation.

It is believed that in a woman the Artava is derived from the food and drink she takes after its many successive transformations from one dhatu to another in a like way as Sukra in man, and in the same way is latent till she attains her reproductive activity which vanishes with the sensible decay of her body. It has in its composition among the five elements the preponderance of Tejas, possessing the potency of Heat (Ushna virya). The menstrual flow accumulated in the course of a month is led in the proper time by the agency of local Vayu through its particular channel into the cavity of the uterus whence it flows out. This is only an apparent Artavam which is different from the true Artavam that takes part in the production of the foetus. Regarding the secretion of true Artavam, it is said that it dislodges itself and glides away from its place only when the woman comes in contact with an adult male at the time of sexual embrace just as a lump of condensed clarified butter melts and expands when placed by the side of fire. This statement therefore indicates that there is another flow apart from the usual menstrual flow which functions in the



foetal development which still stands as a question for research and enquiry in the science of Aryan Medical Art.

During the act of coitus, the Sukra that is ejaculated into the Yoni of a woman through the vaginal canal mixes with her Artavam, similarly secreted and dislodged. It is believed by the modern scientists that the union of these two principles takes place in the ampullary part of the Fallopian tube. As soon as they two fuse together, the Sukra Bija which possesses the Purushic energy stimulates the lifeless and inactive Artava Bija that represents the Prakritic force, and activity and powers of procreation are generated in the Artava Bija and thereby segmentation process of combined seed result ultimately in the form of a foetus.

Then the combined mass is subsequently propelled by the wavy movement of the cilia occupying the surface of the internal mucous membrane of the fallopian tube and confined in the uterus and *jiva* or soul, who is bodyless but enclosed in his astral sheath wandering in the vast space, enters into it in consequence of his mind's attachments and then only the woman is said to have conceived.

After death, the soul leaving the physical body is considered to reside for a time temporarily in its astral covering which is only another aspect of the physical plugged in a deep sleep or a state of coma, resembling the condition of foetus in the womb. Each soul is believed to go to a place, where it belongs to, by reason of what it is by the absolute, just and equitable Laws of Karma, independent of any arbitrary dictates of any judge in Heaven or on Earth but it analyses and passes judgment upon itself acting as an impartial judge, judging from the evidences of the good or evil deeds of its past life and is born again in the planes of divine, human, or animal existence in accordance with its own judgment. This *jiva*, who determines its parents by its previous acts, mixes with the self of the would-be father and influences over his germinal cells, thereby generating the intensity of his sexual desire according to the nature of the sex necessary for the fulfilment of the puposes of its entrance into this world again. A greater intensity on the part of the father is believed to ensure the dominance of the paternal element over that of the maternal causing the male sex of the child while on the part of the mother, ensuring a female child.



*Influence of Sukra and Artava upon the foetus.*

The foetus, that is endued with wealth of semen, of blood (Artavam), of soil, of womb, and of time and whose surroundings are all beneficial, attains to happiness and becomes full bodied in time, says Charaka.

Semen that has been vitiated by the doshas, Vayu, Pitta and Kapham, either severally or combined, is unworthy of impregnation and in a similar manner the Artavam of a woman deranged by the aforesaid doshas, either individually or in combination, should be likewise considered unfit for fertilisation. A child born of a scanty (weak) paternal principle becomes a Shanda of Asekya class who feels no sexual desire without previously sucking the genitals and drinking the semen of another man. A child born of a scanty maternal element 'does neither grow in the uterus nor decay but stands still at a particular stage. The preponderance of Artavam over the Sukra determines the nature of the sex of the foetus as feminine while the birth of a male child is marked by the preponderance of Sukra over Artava. A hermaphrodite is considered to be the product of an equal admixture of Sukra and Artava.

Next we will consider the observance of ordinances laid down in medical scriptures in respect to the science of begetting children at choice and the development of the various parts of the foetus from various sources.

(To be continued.)

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## TAKMAN OF ATHARVAVEDA.

(Communicated to the 6th All-India Oriental Conference) 1930.

BY

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INTRODUCTION. The word *takman* seems to be derived from *tanc*, to contract, and thus may mean what affects the body. There are several hymns in the Atharvaveda against *takman*. (I. 25 ; V. 25 ; VI. 20 ; VII. 116 [121]). From the attributes assigned to *takman* in these hymns we are in a position to find out its nature. We shall discuss them in detail and finally consider the nature of the disease.



## CHARACTERISTICS OF TAKMAN.

(1) *Birth place.* The birth-place of *takman* has been mentioned in several passages. In one place (I. 25. 1.) we are told that the birth-place of *takman* is there, where the Agni (fire—celestial fire or heat produced by the sun), entering, burned the water and where the performers of religious duties used to pay homage. We consider this place as a collection of stagnant water used to be heated by the sun and becoming foul by the decomposition of the water plants from excessive heat. In another passage (I. 25. 2) his birth place is said to seek the place of woods (used for fuels). In a third one (VI. 25 ; 3) he has been called *vanya*, that is, arising from the forest. We shall show later on that the last two passages refer to it as the Jungle fever.

(2) *Original home.* We find that *takman* has been connected with several countries, as Gandhara, Mrjabat (a mountainous country), Anga and Magadha (V. 22, 14). Again, *takman* has been asked to go back to his original home peopled by the Mahaurasas (V. 22, 4, 5, 8), Mujavants (V. 22. 5, 6, 8) and Balhikas (V. 22, 5, 9). These passages probably refer to the prevalence of the disease in those countries. The second passage hints at the idea of its original home being in those places from which it spread to other regions.

(3) *Signs and symptoms.* (i) *Heat.* *Takman* is called heat-weaponed (VI. 20, 1); he is provided with heat (I. 25, 2); he is a producer of heat (I. 25, 4); he heats or consumes (the body) like fire (V. 22, 2); he consumes the whole body (I. 25, 3; VI. 25, 3); he dries up the body (VI. 20, 1). *Takman* has also been called *rura*, heat or fever (I. 25, 4; V. 22, 10, 23; VII. 116 [121]. 1). He is a producer of burning sensation like fire (VI. 20. 1). All the passages refer to the increased body temperature. (ii) *Rigor.* *Takman* has been described as a producer of shaking (V. 22. 7) and trembling (V. 22. 10). Perhaps it is why it has also been said to be provided with fearful missiles (V. 22. 10). (iii) *cold.* It has also been designated as a producer of cold (I. 24. 4; V. 22. 10; 23; VII. 116. 1). This no doubt refers to the afebrile stage between the febrile periods. (iv) *Sweat.* *Takman* has been referred to as *cyavannā*, one who causes perspiration. (VII. 116. 1). (v) *Periodicity.* *Takman* has been divided into several forms according to the periodicity of the febrile stages. Thus we find—(a) Quotidian type (*ubhayadyu*) or fever coming on daily, followed by intermission (I. 25. 4; VII. 116. 2), (b) Quartian type (*anyedyu*).



or fever coming on alternate days (I. 25. 4 ; VII. 116. 2), (c) Tertian type (*Trtiyak*) or fever coming on every third day (I. 25, 4 ; V. 22, 13 ; VII. 116. 2), (d) Double tertian type (*vitrtiyaka*) or Fever coming on two days out of three (V. 22. 13), (e) Irregular type (*avrata*) (VII. 121 [116]. 2), (f) Remittent type (*sadandi*) or Fever continuing for several days without break (V. 22. 13). All these types are recognised to-day from clinical observations. (vi) Skin affections : We are informed of the following skin changes caused by *takman* : (a) *Takman* is a producer of yellow colour (*harita*) (I. 25. 2, 3 ; V. 22. 2 ; VI. 25. 3). It refers to the pale yellow tinge of the skin of chronic cases of malaria. (b) *Takman* is a producer of redness like the fire (V. 22, 3 ; VI. 25. 3). It points to diffuse erythemata which are not infrequently seen in malaria. (c) It is producer of reddish brown colour (VI. 25. 3). It evidently refers to the pigmentation of the skin, quite common in malaria. (d) It gives rise to a spotted or variegated condition (of the skin) (V. 22. 3). The passage might have referred to the purpurial rashes of the skin. (vii) *Nervous symptoms* : (a) *Takman* has been called *vigada*, producer of confused talking (V. 22. 6), evidently referring to low muttering delirium. (b) Again, he has been designated as one who talks incoherently like a drunkard (VI. 20. 1), referring to hoisterous delirium. (viii) Some general symptoms : We have some additional attributes of *takman*, in the way of some other symptoms : (a) He has been called *dhrisnu* (from *dhris*, to over-power), evidently referring to the prostration after an attack (VII. 116. 1). (b) He has been called *nodana* (from *nud*, to drive away repeatedly), indicating the frequent relapses (VII. 116. 1). (c) We have a passage *purvakamakrityane* (VII. 116. 1), referring to *takman* and literally meaning 'former desire performing.' Perhaps it indicates the relapses—the repetitions of the same series of signs and symptoms. (d) He has been called mischievous (V. 22. 6) and producer of a crippled condition (V. 22. 6).

(4) *Complications*. In a passage (V. 22. 11) *takman* is found to have been requested not to make *cough*, *vatasa* (oedematous swelling) and *utyuga* (hiccough ?). Again *vatasa* has been called *takman*'s brother, cough his sister and *papman* (herpes) his cousin brother (V. 22. 12).

(5) *Seasonal types*. We find mention of three types of *takman* named after the seasons : (i) of the Summer, (ii) of the Rainy season and (iii) of the Autumn, (V. 22. 13). In this connection we mention the epithet of *takman* as 'varuna's son' (I. 25. 3), which perhaps



refers to the autumn, as we have reasons to believe that Varuna is closely connected with the autumnal equinox.

(6) *Miscellaneous notes.* We now consider a number of additional notes related to takman. (i) Takman, Vatasā and Ahi (erysipelas ?) have been called the slaves of the ointment (IV. 9. 8). This probably refers to the prevention or cure by anointing the skin with the ointment. (ii) Takman has been designated as *sakambharasya mustiha* (V. 22. 4), literally meaning 'pillar of dung-carrier by fist'. The actual significance is far from clear. We doubtfully think it to mean that takman is killed by (the burning of) dung-cakes. (iii) Takman has been asked to seek sudras (V. 22. 6.), fugitive slave-women (V. 22. 6.) and toads (VII. 116. 2). These passages probably indicate ill-feeling and hatred of the Aryans towards the non-aryans and also show that toad was considered an animal without any economic use.

(7) *Treatment.* As regards treatment, we find that Kustha (*costus arabicus*) has been invoked as the killer of takman (V. 4. 1.).

*Remarks.* We shall now try to find out the true nature of takman from the stand-point of modern medicine. That it is some form of fever is easily understood when we are told that it produces heat on the body surface and also causes sensation of heat inside the body. Considering the other attributes, viz., a cold stage after the febrile period, profuse perspiration (evidently in the cold stage), presence of rigor and periodicity (quotidian, quartian, tertian, double tertian and remittent types), we are inclined to take takman as the malarial fever. We have further evidences towards the same conclusion. Takman's birth place in collections of (foul) stagnant water and forest is quite consistent with the oetiology of malaria. Larvae of malarial mosquito breed in dirty stagnant water. Again the mosquitoes live in forests\* and give rise to malaria. Jungle fever is another name of malaria. The skin affections mentioned in the Atharvaveda have all been found in malarial patients. The nervous symptoms depicted in the hymns against takman have all been observed in cerebral types of malaria. Considering the seasonal types, we find that malaria occurs in all the three seasons, worst types appearing in the autumn. In fact, the malarial remittent has been called the aestivo-autumnal fever. Coming to the complications—cough, oedema or general anasarca and hiccough (?), we find they have all been known to appear in malarial patients. A malarial bronchitis, even pneumonia was described a few years ago. Oedema of the legs is quite common in chronic



malaria with severe and long-continued anaemia. Dropsy due to malarial cirrhosis of the liver has also been described. Malarial hiccough has been described by many observers. On the whole, we may safely conclude that *takman* is a malarial fever. What is remarkable is this that all the main signs and symptoms and the complications were more or less observed by the sages and sung in the hymns at such an early period which took years of observations on the part of a large number of present-day physicians before they could put them together. If any one consults some comprehensive treatise on tropical medicine, as one by Manson or Castellani and Chalmers, he will be surprised to see how the disease was thoroughly studied by the sages of the by-gone days and many physicians of to-day became renowned by simply re-discovering them.

## AYURVEDIC THERAPEUTICS OR THE SCIENCE OF RASA, VEERYA, VIPAKA AND PRABHAVA

BY

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*and translated from his Marathi compilation by Ayurveda-  
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### PREFACE.

Out of the two main parts of Ayurveda, first the System of Diagnosis has been based on 'Tridoshas' or the three *Hormones*, and the other, the system of Treatment, on Therapeutics or the knowledge of Rasa, Veerya, Vipaka and Prabhava of medicinal substances. The special terminology as also the aphrodisiac language of Ayurveda has caused great confusion and resulted in suspicion about the reality and scientificness of Ayurveda as a whole. It is, therefore, necessary to solve this riddle of the terminology of Ayurveda so as to help better understanding, create faith in its practicality and regulate the directions of efforts at rejuvenation of Ayurveda. This is the point in our view in dealing with Therapeutics in the foregoing compilation.



The Tridoshas, their forms and their actions on the diseased and healthy human body have been delineated in the writer's Marathi Book on the "Fundamentals of Ayurveda or the Trido-shas", and it is essential to have the accurate knowledge of the Tridoshas for the better understanding of Therapeutics, because both these parts of medicine are based on the same knowledge of matter.

Many efforts are being made at present for the uplift of Ayurveda, but very few of them are going on towards revealing its theory of broad principles. A good many researchers, having not understood properly the Tridoshas, have perverted the exact aim of the Ayurvedic system of medicine and the same case is with its therapeutical branch, and so these efforts do not help to give any real idea about Ayurveda, and the work of its uplift does not, so to say, succeed. The Tridoshas not having been properly realized, no proper idea can be had of the diagnosis, and the efforts under these circumstances to compare the Eastern with the Western System of Diagnosis have resulted in showing a vast contrast between the two, the former having been proved to be undeveloped and impracticable. So also the real aim of the Ayurvedic Therapeutics not having been understood, if some properties of substances as given in the texts are not seen on experiment, it is apt to be taken as unclear, ununderstandable and impracticable for application to treatment and as such, the whole Ayurvedic System of Medicine stands the chance of being considered as unscientific.

Also while experimenting clinically the properties of substances as described by Ayurveda, if the point of view of Ayurveda, by which their relativeness as to superiority or inferiority is gauged, is not grasped, the number of properties told will be taken to be all of equal strength and the result of experiment against it will go to say that Ayurveda itself is all undeveloped and is in an infant stage; and all these efforts of research will harm the present reputation of Ayurveda instead of increasing the same. The present attempt is made so that such a thing should not happen. And so, even having resorted to rather unclear way of the language, full co-ordination of the way of Ayurvedic delineation has been retained. The present delineation is never boasted to be an original one; it is rather an explanation of the delineation of Ayurveda. This fact having been understood, the writer's round-about way of writing, redundance, if any,



and difficulty at grasping on the part of the readers may be pardonable.

This is the first part of Therapeutics wherein explanation of its theory and practice is given and the succeeding part will give a number of medicines and will explain, on these lines, their properties useful for the sake of practice. A few illustrations, however, have been inserted herein which, while elucidating the subject-matter will give an idea of the succeeding part.

This is, therefore, an attempt to assist those, already made, for the uplift and rejuvenation of Ayurveda and such of the readers, who possess full sympathy and desire for its real understanding, are earnestly requested to look at it with an unprejudiced view and then go to calculate the real merit and scientificness or otherwise of Ayurveda.

: श्री: :

:: आयुर्वेदोय औषधोविज्ञानम् ::

धर्मार्थकाममोक्षाख्यपुरुषार्थचतुष्टयम् ::

सुदौर्घेणायुधाऽरोग्यसम्पन्नेन हि साधयते :१:

अन्तरायास्तु विविधा व्याधयस्तन्निवारणम् ::

फलं चिकित्साशास्त्रस्य साधनं भेषजानि तु :२:

विज्ञातान्युपयुक्तानि यथावद्गुणकर्मभिः ::

आरोग्यसाधनानि स्युरार्युद्धिकराणि च :३:

अविज्ञातानि तान्येव भेषजानि सुखायुषोः ::

हानिं कुर्यैरतनानि विज्ञेयानि चिकित्सकैः :४:

विषं यथा ह्यविज्ञातं विज्ञातममृतं यथा ::

मुनिना चरकेणोक्तमौषधं साध्वसाधु वा :५:

रमो वीर्यं विपाकश्च प्रभावश्चौषधस्य हि ::

चत्वार एते विज्ञेयाश्चिकित्सायां चिकित्सकैः :६:

को वा रसःकश्च विपाक उक्तः किं वीर्यमाख्यातमथप्रभावः ।

द्रव्येषु के वा गुणकर्मण्युत्पाद्युर्वेदतन्त्रेषु विवेचितं यत् ॥

समासतोत्पात्तरसत्ववाक्यैर्वह्मर्थैस्तद्विज्ञेयशरीकरोमि ।

तत्त्वार्थविज्ञानमस्तुक्तानां तदर्थबोधः सुलभो भवेदिति :७:

विनिर्धार्य विचार्यैतत्सुधीभिः समया धिया ::

रसादितत्वविज्ञानमेव सम्प्रार्थ्यते मया :८:

हिल्लिकरोपाभिधेन सखारामतनूभवा ::

आयुर्वेदीयभेषजा पुरुषोत्तमशर्मणा :९:



## Reports of Societies, etc.

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### CALCUTTA'S HEALTH IN 1930.

#### Corporation Report.

##### MEDICAL RELIEF AND MATERNITY WORK.

The Report of the Health Department of the Corporation, for 1930, issued Oct. 26 states :—

The number of deaths during the year, in town proper was 25,402 or 27.9 per thousand and is lower than last year's figure of 29.6 per thousand.

Plague :—There was no death from plague.

Cholera :—The mortality was lower than in 1929. The total number of deaths in the town proper was 1,368 as compared with 1,998 in 1929. This was lower than the quinquennial average which is 1,547.

Small-pox :—There were 1,414 deaths i.e., a death rate of 1.5 per thousand in the town proper as compared with 257 deaths from small-pox in 1929.

Influenza :—The number of deaths recorded as due to influenza in the town proper was 378 as compared with 432 deaths in 1929.

The following figures show the variations in the mortality from the other principal diseases in the town proper :—

	1930	1929
Malaria	511	657
Enteric	615	650
Other fevers	1,275	1,476
Kala-azar	267	340
Dysentery, etc.	2,579	2,583
Tuberculosis	2,218	2,295
Measles	129	73

The total number of deaths registered in 1930 was 25,402 of which 14,070 were males and 11,332 were females. As the male population of Calcutta outnumbers that of females by two to one, the death rate amongst the females was obviously much higher than amongst males. The death rate were: male 22.7 per thousand, females 39.5 per thousand.

#### THE BIRTH RATE.

The number of births registered during the year in Calcutta proper was 19,570 or 21.6 per thousand of the population. This is



higher than the quinquennial average of 18.7 per thousand as also higher than the last year's birth rate of 21.0 per thousand.

#### INFANT MORTALITY.

The actual figures of the town proper for the last 5 years are :—

Years.	No. of births rgtd.	No. of infantile deaths.	Infntl. death rate pr. 1000. rgtd. births.
1926	15,590	5416	347
1927	14,115	4,580	324
1928	18,520	5,001	270
1929	19,088	4,684	245
1930	19,570	5,013	256

#### FOOD AND DRINKS.

The total number of samples collected by the Food Inspectors during the year under review was 6,622 as compared with 5,862 in the preceding year. Of these samples, 1,017 were of milk, 1,674 of ghee, 1,578 of mustard oil, 358 of butter, 300 of flour, 906 of sweet-meat, and the rest of other food stuffs. As a result of analysis done at the Central Laboratory 1,051 of these samples were found adulterated with a proportion of 14.7 per cent of the total number of samples taken against 15.0 in 1929. Of the adulterated samples 291 (25.6 per cent.) were of milk, 171 (10.3 per cent) of ghee, 336 (21.4 per cent) of mustard oil, 24 (6.9 per cent) of butter and 98 (10.8 per cent) of sweetmeats. It is satisfactory to note that of 300 samples of flour none was found bad. Altogether 59 samples of drugs were collected of which only 1 (1.7 per cent) was found adulterated but what is striking is that out of 305 samples of Invalid food as many as 105 samples were found adulterated i.e., 41.0 samples out of 100 were bad and unfit for human consumption. Including 525 cases pending from the last year altogether 3,242 prosecutions were disposed of during the year. Of these 2,017 ended in conviction and fines amounting to Rs. 21,455 against Rs. 24,334 in 1929, were realised.

#### MUSTARD OIL.

The Food Inspectors regularly and systematically inspected all the places where mustard oil was manufactured and sold and kept the places under strict supervision. As the result of action taken 1,573 samples of mustard oil were taken as compared with 1,239 in 1929. Of these 326 were found adulterated with a proportion of 21.4 per cent of the total number of samples collected. 29 mds, 24½ srs. of this stuff were destroyed during the year.



The provisions of Section 390 of the Calcutta Municipal Act controlling the eating houses, hotels, tea shops, and other places where food was prepared or sold were enforced as usual during the year under report. The Food Inspectors regularly inspected all these places and took statutory action whenever samples taken from these places were found adulterated, and defects in sanitary arrangement were noticed.

#### MILK SUPPLY.

Attention of the Food Inspection staff was specially directed towards improvement of Milk Supply as it formed an important part of the food supply of the city. At present there are 3 important centres where milk is sold. These are Sealdah Milk Market, Jorasanko Bazar and the milk stalls at Sir Stuart Hogg Market. In addition to these centres for supply of Milk, there was an arrangement with the Co-operative Milk Societies' Union for supply of adequate quantity of milk to the city. Besides this, there are proposals under consideration of the authorities for increasing the sources of supply. At Sir Stuart Hogg Market there is an arrangement for testing the purity of the milk before it is exposed for sale. In other places there is no such arrangement but the Food Inspectors usually take samples and send them to the Corporation Laboratory and take statutory action according to the result of the same.

As the result of action taken by the Food Inspectors, 1,017 samples of milk were collected by them, 291 of which were found adulterated i.e., 28.6 per cent of the total number of samples taken as compared with 30.6 per cent in 1929.

#### MADICAL RELIEF.

There are altogether 18 free dispensaries under the control of the Corporation. In addition to these, there is a small hospital with 4 beds attached to the Kalighat Ram Chandra Goenka Dispensary. This is an emergency hospital meant mainly for treatment of emergency cases occurring amongst the Kalighat pilgrims. The total number of outdoor patients (new) who received treatment in these dispensaries during the year under report was 1,87,960 while the total number of outdoor patients including old and new was 4,98,175 with daily average attendance of 1,433.42. The diseases responsible for the largest number of patients were dysentery 4,900, Malaria and spleen diseases 22,197. Pneumonia 535, Tubercle of the lung 875, all diseases of the respiratory system except Pneumonia and tubercle of the lungs 17,116 and Dyspepsia 7,080.



## AYURVEDA DISPENSARIES.

The 8 Ayurveda Dispensaries established and controlled by the Ayurveda Sabha are rendering useful services and helping in ameliorating considerably the condition of the poor residents of the town and suburbs. The institutions are steadily maintaining their usefulness and popularity and the year under review was signalled by a steady increase in the number of patients seeking relief in these 8 Free Dispensaries. The number of new patients treated showed an aggregate of 11,753 while the total number of patients old and new, came up to 75,120 against 61,113 of the preceding year. This represents an increase of over 14,000 patients (old and new) in the year under report.

## WARD HEALTH ASSOCIATIONS.

The total number of Ward Health Associations found in existence at the beginning of the year was 29. These bodies receive grants from the Corporation and are affording free medical relief to the poor and taking preventive measures against epidemics. They are also doing propaganda work by holding magic lantern demonstrations and Health exhibitions.

## MATERNITY WEEKS

There were altogether 3 Maternity Homes at the beginning of the year viz., Buldeodas Maternity Home, Chetla Maternity Home, and Kidderpore Maternity Home. One more Maternity Home was opened at Manicktala. In each of these institutions, up-to-date arrangements for treatment of patients have been made. The patients are treated with great care and for this the Homes are growing in popularity. In addition to 131 cases waiting from the preceding year the total number of patients admitted during the year was 2,082 as compared with 1,675 in the previous year. Of these, there were 1,310 normal and 409 abnormal labour cases. 208 cases of abortion and 33 cases of miscarriage were treated. In addition to these, there were 21 cases of premature birth. The work in all these places was smoothly carried out.

Altogether 9,343 pregnant women were registered during the year as compared with 9,132 in 1929. Altogether 6,121 cases were delivered by the Corporation midwives and the difficult cases of labour sent to Hospitals. Among the deliveries attended to by the Corporation nurses only 3 cases proved fatal to the mothers and this was a little over 1.3 per 1,000 deliveries. There were 188 stillbirths and in 117 cases the babies died during the first 10 days of birth, or in other words 19.0 per thousand babies delivered by the



Corporation nurses died within 10 days of births while the general infantile mortality in the city during the first week was 84.2 per 1,000. A large number of infantile deaths within 10 days occurred amongst prematurely born babies.

The Lady Health Visitors and Sisters-in-charge paid 19,037 visits to private houses in discharge of their duties. They paid 5,625 visits to waiting cases and 6,866 to maternity cases. They personally delivered 158 cases and paid 7,846 visits to the babies from 10 days of birth till they were 3 months old.

#### BABY WELFARE WORK.

The "Baby Welfare Work" which is being performed by the Lady Health Visitors is being highly appreciated by the public. This branch of health service is transferred from the Maternity Register to the "Baby Welfare Work" as soon as the puerperal period of 10 days is over. These babies are regularly and systematically visited by the Lady Health Visitors till they are 3 months old. During this period the mothers are advised and treated if necessary and the babies frequently visited and provided with warm clothings, nourishing diet, etc., as required under the circumstances. The total number of babies in the "Baby Welfare Register" during the year under review was 5,821 as compared with 6,142 in 1929, and 7,846 visits were paid to these babies by the Lady Health Visitors.

#### MILK KITCHEN AND BABY CLINICS.

There were 7 Milk Kitchens in the city during the year under report viz., 1 in each of the 4 districts in town proper and 1 in each of the 3 added areas. All these Milk Kitchens are under control and supervision of Milk Kitchen nurses who are all with the exception of the one in charge of the Chetla Milk Kitchen trained and qualified midwives. Babies under 3 years of age are twice fed daily with milk mixed with barley water at the rate of 1-4 sr. per head both in the morning and afternoon. The mothers who carry these babies are given instructions on hygienic laws as to how the babies are to be brought up at home. In case of sickly babies, attention of mothers is particularly drawn to their ailments and necessary instructions are given by the nurses for proper treatment.

The total number of babies registered in these Milk Kitchens for free supply of milk and clinic work was 507 as compared with 509 in the preceding year. The amount of milk distributed among these babies was 1,474 mds. 34 srs. as compared with 1,059 mds. in 1929.



## VACCINATION.

Including 35,044 primary vaccinations and 1,98,391 re-vaccinations the total number of vaccination performed during the year under report was 2,33,435 as compared with 1,29,323 and 95,364 in the two preceding years. In addition to this, private medical practitioners and the Medical Officers of the Ward Health Associations also performed a large number of vaccinations with lymph supplied by the Corporation, free of cost. Nearly 10,909 vaccinations were performed by the Ward Health Associations during the year under review against 9,851 in the preceding year.

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Reviews and Notices of Books

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*Care of the Eyes* compiled by Experience. Published by J. C. Basak, 363, Upper Chitpore Road, Calcutta, 1932. Price 12 annas.

This little treatise of 148 pages with four illustrations is one of a series of brochures which contain special hygienic rules for the cure of the Eyes, Ear, Nose, Teeth etc. This book of the series published for the education of the Indian people, especially the student community, will serve the purpose admirably as it is written in the style of a popular book, easy language, free from technical terms as far as possible and moderate price. The prevalence of defective eye-sight is indeed alarming among our students. This book should be in the hands of the teachers to be taught in our Schools and Colleges. The use of the eye-glasses has become very common but it should be remembered that their use gives only partial relief as a temporary measure but never improves the eye-sight. The structure of the eye is dealt with very briefly; the common diseases have been described and suitable remedies suggested. We safely recommend the book for our boys and girls.

G. N. M.



## Medical News & Notes

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### THE PERILS OF EXCESS.

By Edwin F. Bowers, D. C., N. D.

I can't find any reason to cheer about Thomas Edison's four hours a night (they don't say anything about another possible four hours of cat-napping around the laboratories), and the example of valiant go-getting business men who get up at the same time the bird and the early worm begin their day's work, have been used to bamboozle the youth of our land for a lot of years. Doc Hutton tells me that this is one of the most damnable doctrines ever preached. For it ignores one of the fundamental laws of physiology—which is that only during sleep is the conversion of the finished product of digestion into living tissue completed.

Also, it is during sleep that the process of oxydation or burning up the poisons in the body is most active. So, if we don't get enough sound, restful sleep we get rid of only a part of this poisonous accumulation. This is one reason why we feel so "dopey" after the loss of a night's sleep. In fact, if we were kept awake long enough, our body poisons would drive us insane and smother us to death. We need sleep just as badly as we need food. For food and sleep go together like ham and eggs, or liver and bacon.

So I'm telling you, if you're on your vacation and want to see the sunrise from the top of some mountain or hill in the neighborhood, don't prepare for your stunt by remaining up all night dancing. There isn't any use in being little Johnnie or Jennie Bright Eyes at four A. M. and Dick and Doris Deadeye all the remainder of the day and evening.

There's another thing a lot of people make trouble for themselves with and that's the cold bath.

Of course, for those who have active hearts and elastic arteries, there isn't a better tonic in the world than the cold tub or shower, especially as an "eye-opener" in the morning. For the blood, driven by the shock of the cold water from the surface blood vessels into the internal organs and vessels, surges back and distends the surface vessels again. Every red-blooded, strong-hearted individual reacts to the shock of this stimulus. It toughens the system, aids digestion, increases resistance to exposure and helps your metabolism, or nutrition.

But when a little anemic gentleman, or a girl who is always below par, indulges in a cold morning tub in the belief that he or she is going to be rejuvenated thereby, they are in the manner of speaking "all wet." The shock is a slap in the face. Their skin is covered with goose pimples, their eyes are watery, their lips are livid, their circulation may not become normal again for hours.



Digitized by Arya Samaj Foundation Chennai and eGangotri

These folks ought to remember the story of that chap, Whoozis, in the Greek mythology, who aspired, for some reason or other, to lift a cow. When Whoozis first tried this feat he found the task away beyond his strength. So he bought a calf. Every day he went out to the barn, put his back under that calf, and raised her from the floor. After a couple of years the calf grew into a prime beef cow. But Whoozis, who had been practicing on that cow every day since she was a calf, found no difficulty whatever in lifting her, at any time or any place. He had trained himself and his muscles to this particular task.

This is exactly what I try to tell the boys about cold water bathing: If you're anemic and your circulation is defective you should try to build up a better and stronger constitution. Then, by degrees, the temperature of the water may be reduced and the duration of the bath increased, until you become a full-fledged summer and winter cold tub bather.

But there's one mistake that's made by more people than you would shake a stick at. That's the idea thousands of middle-aged men and women have who are positive they are "just as good as they ever were." This is one of the most foolish mistakes anyone could ever make—and I see plenty up here in the gymnasium and the running track.

Doc Hutton tells me that four out of every five "leaky hearts" in America are caused by their owners trying to box a half dozen fast rounds, wrestle a brisk heat, or swim or row beyond their normal limits of endurance.

And don't forget there are thousands of men suffering from rupture or chronic strain of ligaments of their spine, or some group of muscles, who thought they could put a ber bell, chin a "horizontal," pull the spring out of a lifting machine, just like they did when they were youngsters of twenty, and there's horseback riding, too. You can bet your last dollar that if a man is foolish enough to take a twenty mile ride before he learns that there is any technic in horse-back riding, he's courting a peck of trouble for himself.

However, there's one thing that every old trainer and physical cultural man knows: And that is if you strain any set of muscles by putting unusual demands on them—in skating, wrestling, golf, hiking, mountain-climbing, or whatever you're doing that you're not used to doing, you'll be sore and stiff for a few days. You'll work out of it, all right. But it's different with the heart.

There's the way Doc Hutton puts it to me. He says that in competitive athletics the heaviest strain is *not* on the muscles. It's on the heart and the blood vessels. Now, the athlete, called on daily for the full power and endurance of his muscular structure, develops a certain amount of hypertrophy in all the muscles he uses—but more particularly in the muscles of his heart. The heart, enlarged from the extra supply of blood fed to its muscle fibres, becomes chronically congested, even



slightly inflamed. After the man "breaks training" the heart begins to shrink again, until the athlete starts to use it once more,—perhaps in preparation for the next contest.

Now it's the rule, rather than the exception, that men who have been most active in school or college are generally inactive when they settle down to business. The champion hammer thrower or shot putter becomes a broker. He exercises the muscles of his lower jaw and tongue, telling his customers how much money they can make, buying General Motors. The two hundred and forty pound full-back settles down and becomes a lawyer, a writer, or even a man-milliner. In his new job he hadn't any use for his big muscles and his over-developed heart than he would have for another pair of ears.

What does Nature do about it? She says: In my method of house-keeping I get rid of everything I don't need. Now, here's a great big mass of congested, swollen muscle that we haven't any use for. I guess I'll turn it into fat, and get rid of it that way.

So she brings about fatty degeneration of the extra muscle-fibres and attempts to absorb the exudate so as to bring the abnormally enlarged heart down to normal proportions. With anything like half-way co-operation she usually succeeds. But very often she only succeeds in permanently weakening the heart, both in structure and in functioning power. Or else she produces fatty degeneration, one of the most insidious and dangerous of all heart diseases.

And so a nineteen-inch biceps, or a bunch of muscles that writhe under the skin like a basket of snakes, are no insurance against cardiac degeneration. On the contrary, they may really invite this trouble if you don't keep up your physical culture work.

Too much exercise is just as bad as too much of anything else. And yet, it is, or should be, a simple matter to avoid these dangers. In fact, Nature has provided us with an instinct that warns us when we are overstepping the bounds of moderation.

Herë's how you know. Just as long as you get pleasure and enjoyment out of the work or the exercise, it's doing you good. When it gets to be a grind, and you have to force yourself to it, it may be really doing you harm. The great lesson to learn in life is moderation. The old guys that quit before Nature made them quit got the most fun out of life, lived the longest, and were the healthiest. Keep that in mind, and you may save yourself a whole lot of trouble.

—*Nature's Path.*



By Dr. D. J. Foard.

#### ANEMIA

*Question* : Have heard many definitions of anemia. Please tell me what it really is.

*Answer* : Anemia is an abnormal blood condition in which the erythrocytes, or red-blood corpuscles, are affected. There are two types of anemia exclusive of primary or pernicious anemia. In one type the number of erythrocytes is greatly reduced. In the other type the reduction is in the functional efficiency of the erythrocytes. The latter type is the more common. In either type there may be a more or less reduction in size of the individual cells. The resulting consequences of either type is that there is an insufficiency of tissue nutrition.

#### PREGNANCY

*Question* : What are the most indicative signs of pregnancy ?

*Answer* : The most characteristic evidences of pregnancy are, amenorrhœa, frequent miction, nausea and vomiting and softening and darkening of the vulva, vagina, and cervix. In pregnancy these symptoms are followed by progressive distension of the abdomen.

#### SYPHILIS ACNE VULGARIS

*Question* : Have been reading about syphilitic acne. How can one tell syphilitic acne from acne vulgaris ?

*Answer* : Syphilitic acne is distinguished from acne vulgaris by its distribution. Syphilitic acne especially effects the belly and thighs, acne vulgaris especially effects the face and neck. The lesions of syphilitic acne are dryer and there are no permanent white cicatrices as in acne vulgaris.

#### VITAPATHY

*Question* : Can you tell me what Vitapathy is ?

*Answer* : Vitapathy is a therapeutic system originated and copyrighted by Dr. John Bunyun Campbell. Dr. Campbell's college, the American Health School, was organized in 1874 and was located in Fairmont, Ohio, a suburb of Cincinnati. The college was closed, I think, about 1912. The vitapathy system embraced the use of an electrical device which was supposed to "draw out" the poison in the body and deposit it on a metal plate upon which the patient stood. The college was chartered as a religio-medico institution.



## TOXIC HYPERTHYROIDISM

*Question :* A lady patient first went to M.D. who said it was toxic goitre. He suggested operation. It does not bother her a great deal. What do you think ?

*Answer :* I can't tell a great deal about the particular case, not having the opportunity of examining the patient, but I would strongly suggest that you institute regular Naturopathic treatment instead of resorting to surgery. Look for the cause of the disfunction and correct it. Stimulate circulation and build up tissue tone. Give special diagnostic attention to the other endocrines. A malpositioned uterus often is the cause of thyroid hypersecretion. Institute correction immediately to avoid disturbances and complications.

## TIME OF LABOR

*Question :* How can one tell when labor will take place ? Some physicians give the date as soon as they know the women are pregnant.

*Answer :* The exact date of the occurrence of labor can never be foretold. An error of two weeks one way or the other is possible. Will give here the method I have found to be most reliable. DeLee presents this method as follows. Count back three months from the first day of the last normal menstruation and add seven days. For example, Mrs. X. menstruated last beginning October 10th. July 17th is set for confinement.

## AUTO-HEMIC SERUM

*Question :* Will you please tell me where I can receive treatments of Auto-Hemic Serum ? I have an old advertisement telling about it. I understand it is very good for a poor appetite and loss of vitality.

*Answer :* The product of which you inquire can no longer be obtained. It was a useless serum widely advertised by Dr. L. D. Rogers who seems to have made a practice of offering "cure-alls" on the market to be purchased by the unsuspecting public. The product was forced from the market some years ago. Would advise you to consult a physician who will stimulate your appetite and increase your vitality by effective rational treatment.

## BROMIDE ERUPTION

*Question :* Had a woman patient come to me with a bad breaking-out on her legs. She had been troubled with insomnia and so went to M. D. who advised her to take sodium bromide. As this did her no good she did not return to the doctor. She continued taking the bromide for some time with no results. The breaking-out looks very much like



sypilis. The lady has had menstrual irregularities, could this have anything to do with it ? Dr. J.

*Answer :* Your patient undoubtedly has bromide eruption. This is a very common result of taking the bromides or iodides. Bromide eruption is more resistant to treatment than iodide eruption. The menstrual irregularities may have been pre-disposing to the present condition. Think you can rule out specific disease. Treat the eruption as you would for acne. Give general stimulating treatment and regulate the patient's diet and you will find the eruption will disappear. As the condition occasionally becomes chronic, would suggest that you institute treatment at once.

#### GERIATRICS

*Question :* Will you please tell me what Geriatrics is ?

*Answer :* Geriatrics is the study and practice of old age.

#### GONORRHEA—MEDICAL TREATMENT

*Question :* Will you please tell me what medical physicians do for gonorrhea ?

*Answer :* One of the most common methods of drug administration for gonorrhea is methenamine and sodium biphosphate. The sodium biphosphate is given first to render the urine acid. The methenamine is given after the sodium phosphate has left the stomach. Methenamine liberates formaldehyde in the presence of acids. It is used as a urinary antiseptic, so is medically indicated in gonorrhoea.

#### MYCOMYRINGITIS

*Question :* Please tell me what mycomyringitis is ?

*Answer :* Mycomyringitis is also known as, mycosis, otomycosis, aspergilus, myringitis parasitica, earmold, and aural fungi. It is a parasitic inflammation of the external auditory meatus.

#### ENTEROSPASM

*Question :* What treatment should one give in a case of enterospasm ?

*Answer :* The diagnosis of enterospasm is a somewhat difficult one. If a positive diagnosis has been established, however, the treatment should consist of hot fomentations or poultices over the abdomen and enemas to keep the bowels open. Pain should be reduced as much as possible. Enemas given during the attacks will be found beneficial. For correction, the patient should have ordinary diet and moderate exercise in the open air. Structural and functional abnormalities must be corrected. The bowels should be kept open through diet by bran, etc.



## PARTIAL FACIAL PARALYSIS

*Question* : I have a case of facial paralysis under treatment. The paralysis is not extensive but I am getting no results. What would you especially suggest ?

Dr. K. M. B.

*Answer* : Your case is undoubtedly one of partial facial paralysis. Would suggest you trace and give stimulating treatment to the portio duro nerves. (seventh pair.) Spinal or muscular adjustment will be necessary to correct the abnormality which is affecting these nerves. After correction give massage treatments at regular intervals for a while to prevent a recurrence. Examine the teeth and ears well.

## GASTRIC JUICE

*Question* : What is the gastric juice made up of ?

Mrs. J.

*Answer* : The active principles of gastric juice are pepsin and hydrochloric acid.

## SACH'S DISEASE

*Question* : Please tell in your column what Sach's disease is.

Dr. O.

*Answer* : Sach's disease is also known as Tay's disease and Amaurotic family idiocy. Wilcox defines it as, "A rare disease characterized by gradual onset of blindness, with physical and mental impairment."

## F. S. Sc.

*Question* : Would like to know what the degree F. S. Sc. means.

Mr. R. W. T.

*Answer* : The letters of which you inquire, placed after a person's name means that that person is a "Fellow of the Incorporated Society of Science, Letters and Arts of London, Ltd." The abbreviation "(London.)" is usually placed thus after the F. S. Sc.

## B. A. CULTURE

*Question* . Please tell me in the "Question and Answer Box" what B. A. culture is

Dr. F. R. Z.

*Answer* : The culture of which you inquire is *Bacillus Acidophilus* culture. These organisms are beneficial occupants of the gastro-intestinal tract, especially the intestines. When the absence of these is evidenced, the deficiency is made up by giving the culture which normally contains one-hundred million viable organisms in each cubic centimeter. As to the benefits derived from the bacteriological action of these organisms, will suggest to my readers that intestinal faunae and florae provide an excellent subject for therapeutic research.

*Nature's Path.*



## THINGS WORTH WHILE KNOWING

### THE VIRTUES OF MATE TEA

Mate, exported chiefly by Paraguay and Brazil, comes in wrappers of raw skin. It is often claimed that mate counteracts the formation of uric acid, so that gout and rheumatism are said to be rare in the mate countries, in spite of the large quantities of meat eaten by their population.

### SWEETS FOR DIABETICS

The inability of diabetic patients to retain carbohydrates—especially sugar—in their bodies makes sweetening a serious problem in such cases.

There are, however, some sweet products which diabetics can use. Principal among these is "Bro-Sak," a highly perfected mono-gamma carbohydrate cereal sugar. It is the most perfect sugar thus far produced and being already inverted it is promptly absorbed by the intestinal tract without digestive action, and changed into heat energy with very little loss of oxygen and at the same time enables the system to perfectly burn up and convert all fats and proteins.

### THAT SPRING TONIC WE OVERLOOKED

Any season of the year is appropriate for an internal housecleaning. If you forgot to take a spring tonic some weeks ago, you need not wait until next year. The warmer months of the year are naturally suitable, because of the body's increased thirst.

Juices obtained from natural fruits—cherry, blueberry, currant and others—are splendid blood purifiers and can be taken in the natural state, or diluted with water and sweetened with honey. However, it is important that these juices should not be subjected to a heating process which would lessen their value.

### RELIEF FOR THROAT SORENESS

Hoarseness and that "frog-in-your-throat" feeling can be quickly relieved by the following mixture. Take equal parts of honey, glycerine and lemon juice, one teaspoonful every half hour. It does the trick, tastes well and can also be used for children's coughs.

### IMPORTANCE OF SKIN-CLEANSING

Too many people think of the skin as a mere covering of the vital parts of the body, as if it were the wrapping of a sausage. What they do not always realize is that the skin is an organ which, through pores and otherwise, has a definite and protective task to perform.

Despite the thousands of widely advertised beauty compounds and creams, women of the new world rarely display the healthy complexions—superior even to those of the average schoolgirls—which are enjoyed by European peasant women far past middle age.



The secret—or rather the principle, for it is no secret—of these good complexions is in the use of sour raw milk which is rich in natural lactic acid. The latter not only cleanses the skin and its pores, but is useful in correcting various skin disorders.

#### AGAR-AGAR IN BISCUITS CONQUERS CONSTIPATION

A safe and convenient way to correct sluggishness of the bowels is to use biscuits made from bran, whole wheat and agar-agar. Such biscuits can either be baked by the housewife or bought ready-made.

The advantages of bran and whole wheat are widely known, while the general public is unaware of the virtues of agar-agar which is a sea-bed vegetable. It is tasteless and odorless, but high in intestine-lubricating power. Moreover, it is able to absorb 36 times its own weight in moisture.

Naturally, the moisture is dried out by the baking process, but when the biscuit is eaten the agar-agar readily reabsorbs it from the stomach contents. In the colon, it acts as a lubricant and has a healing effect.

#### INDIAN THYMOL, MENTHOL AND CAMPHOR.

Indigenous Drugs Enquiry, I.R.F.A., Series No. 35, by R. N. Chopra, M.A., M.D., and B. Mukherjee, M.B., of the Department of Pharmacology, Calcutta School of Tropical Medicine, deal with thymol, menthol and camphor from Indian sources. From this interesting and valuable publication we abstract the following passages :

Thymol, menthol and camphor are well known in the materia medica of western medicine, as well as in that of the indigenous medicine in India. Thymol has been considered important on account of its powerful antiseptic, germicidal and anthelmintic properties. One of its chief uses in recent years has been in the treatment of hookworm disease. It is also largely used as a constituent of tooth-pastes and mouth-washes and as a skin disinfectant in dermatological practice. Menthol is extensively employed in liniments, spraying lotions and in dental practice. Camphor is one of the commonest remedies, and is used in almost every household in India for a variety of purposes. The huge demand for these stearoptenes can therefore be easily understood. Large quantities of these drugs are imported from foreign countries. It will therefore be interesting to examine the indigenous sources from which these drugs can be produced, and the possibilities of their manufacture in India on a commercial scale.

#### THYMOL.

The chief source from which thymol can be produced in India is *Carum copticum*. The seeds of this plant known as "ajowan" seeds,



Digitized by Arya Samaj Foundation Chennai and eGangotri

have been used in the indigenous medicine in the treatment of atonic dyspepsia, diarrhoea, colic, flatulence, indigestion and cholera. The aromatic seeds are extensively used as a condiment in curries, to flavour sweetmeats, in "pan supari" (betel leaf) mixtures, etc. The ajowan plant has, therefore, been grown to a greater or lesser extent all over India. It is particularly abundant in Bengal, Central India (Indore), and Hyderabad (Deccan). Nearly 7,000 to 8,000 acres of land are under cultivation each year in the Nizam's Dominions alone, and similar large areas are also stated to be under cultivation in the Punjab and the United Provinces. Large quantities also find their way into India through the inland routes from Afghanistan, Baluchistan and Persia. It can, in fact, be grown in any part of the Indian Peninsula, and the country has possibilities of being a rich source of raw material for the production of thymol.

Besides this, *Cuminum cyminum* may also serve as a subsidiary source of thymol. *Cuminum cyminum* is abundantly cultivated all over India, particularly in the United Provinces and Punjab, as a field or garden crop, and is exported in large quantities to Ceylon, the Straits Settlements and British East Africa. It contains 3 to 3.5 per cent. of cumin oil, whose chief constituent is cumic or cuminic aldehyde, which can be converted artificially into thymol.

It is common knowledge that "ajowan" seeds have been distilled in India by crude methods for centuries, and the impure thymol produced, known as "ajowan-ka-phul," has been used in the indigenous medicine. The seeds distilled with water produce "ajowan-ka-arak," which is well known as a medicine to the people. It was, however, only as a result of the cutting off of foreign supplies of thymol during the war, and the stoppage of the export of seeds from India later, that definite attempts were made to manufacture the article on a commercial scale.

Ajowan seeds from various sources in India have been examined for their oil contents. The seeds from different parts of the country yielded varying proportions of oil ranging from 2.0 to 3.5 per cent. Seeds obtained from the Kurnool-Guntakal district of Madras Presidency appeared to be the best variety obtainable in India. These seeds were thicker than the ordinary seeds and were of a yellow colour and gave a high yield of oil, i.e., 3.5 per cent. The seeds obtained from Northern India yielded only 2.07 per cent. of the oil, and the percentage of thymol in most of the Indian oils is not more than 33 to 37 per cent. This is low as compared with the yield obtained from Spanish thyme, which is the chief competitor of the "ajowan" seeds. Besides this, *Carum copticum* grown in other parts of the world appears to give a larger yield of oil. A sample of seeds from the Seychelles gave on analysis 9 per



cent., and one from Monserrat 3.1 per cent. of oil, containing 39 and 54 per cent. of thymol respectively.

It would appear from this that the production of thymol from raw materials at present available in India would not be commercially a successful proposition. With the advent of synthetic thymol, the natural product is being completely displaced. Even in Spain, cultivation of thymol is being discontinued in many localities. The prospects of thymol production from Indian ajowan seeds are not therefore bright at present. Large quantities of the seeds, however, are grown in India, and as the export is completely stopped, they will have to be utilised or the cultivation will cease. Some workers in India have shown that thymol manufacture in India should not be a failure if the by-products, e.g., spent seeds, omun water, thymene oil, etc. could be utilised.

In addition to ajowan seeds, it will be probably worth while considering the possibility of manufacture of thymol from the ketone, piperitone, in this country. Eucalyptus trees grow very well in many parts of India, and eucalyptus oil is already being produced on a commercial scale. Large tracts of country are available for the cultivation of eucalyptus, and piperitone could be produced on a large scale. Its conversion into thymol ought not to involve a large outlay of capital. The whole question of manufacture needs careful study by experts, but from the data we have at our disposal the position appeared hopeful.

#### MENTHOL.

Menthol is obtained chiefly from *Mentha piperita*, or the marsh mint, which grows extensively in the British Isles and in the United States of America. Though *M. piperita* does not grow in India, a number of other species of mentha grow quite well. *M. arvensis* grows very abundantly in the northern and western Himalayas in a state of nature. It is found in Kashmir at an altitude of 5,000 to 10,000 feet. The drug does not appear to have attracted the attention of the ancient Hindu physicians, though it is now extensively used as a household remedy throughout India for its stimulant and carminative properties. Mint is also largely used in flavouring foods. In view of the abundance and easy availability of *M. arvensis* in India, experiments were conducted at the Calcutta School of Tropical Medicine, to see how the essential oil of *M. arvensis* compares with the peppermint oil of commerce. The essential oil obtained on steam distillation of the herb from Kashmir was found to have the same odour, taste and other physical characters as the peppermint oil used in the British Pharmacopoeia, and crystals of menthol could be easily obtained from it on keeping some time. The yield of oil was 0.18 to 0.2 per cent., which may be considered quite satisfactory when compared with some specimens of peppermint grown under ideal conditions in some experimental farms in America.



Apart from the natural sources already existing, *M. piperita*, the most important official source of the drug, can be grown as a garden plant in India. Any marshy soil situated along the banks of rivers, provided it is well drained and not too damp, is suitable. There is no reason why this industry should not be successfully developed. The methods of planting, cultivating, harvesting and distilling have been worked out through years of trial and experiment in many countries, and could be easily taken advantage of in India.

*M. arvensis* grows luxuriantly in a state of nature in the forests of Kashmir. If the Forest Department concentrate their attention on these areas, protect them from grazing, and encourage its growth, large quantities of the raw material for the distillation of the oil could be made available at a small cost. Cultivation of *M. arvensis* in suitable areas could also be carried out on a commercial scale without difficulty and without much expense, as has been done by the Kashmir Government in the case of kuth root.

Peppermint oil of commerce is derived chiefly from two botanical sources: (1) The English, American and European oil from *M. piperita* and its varieties, *officinalis* and *vulgaris*; and (2) the Japanese oil from *M. arvensis* and *canadensis*. English peppermint oil commands a higher price and consequently a good deal of adulteration of the English with the American takes place. The Japanese oil, which is not yet official in the British and American pharmacopœias, differs from the English and American oils in possessing a strong characteristic odour and a somewhat pungent taste. It is rich in menthol content, and readily crystallises to an almost solid mass on cooling. At present, the main supply of the oil comes from Japan, which supplies about 80 per cent. of the world's requirements. Next to Japan, America is the largest supplier of mint oil.

In view of the fact that the average price for peppermint oil is steadily on the increase, it may be worth while for this country to develop this industry.

The possibility of competition of the natural article with the synthetic menthol now placed in the market should not, however, be lost sight of. Menthol can be easily synthesised by reducing ketones such as menthone, pulegone and piperitone. These materials are available at a very low price, and therefore synthetic menthol can be sold in the market at a rate which leaves very little profit for the mint growers.

Synthetic menthol sold in India has been examined in the chemical department of the Calcutta School of Tropical Medicine. In appearance and odour the synthetic product is very similar to the natural menthol. It has a melting point of 35° C., and is lævo-rotatory. Tests have further shown that the synthetic product is slightly more active physiologically



but less toxic than the natural product. As matters stand at present, it is not possible to forecast the possibilities of the natural menthol industry. The rate at which the synthetic article is being produced and boomed in the market augurs very unfavourably for the natural product. For her internal needs, however, India could easily utilise her large natural resources.

#### CAMPHOR.

*Camphor from Indian sources.*—Unlike thymol and menthol, India's natural resources for producing camphor are rather poor. *Cinnamomum camphora*, the important camphor-yielding tree, does not grow in India. Several varieties of Blumeas, e.g., *B. balsamifera*, *B. lacera*, *B. densiflora*, *B. malcomii*, *B. grandis*, etc., capable of yielding a fairly good quality of camphor, however, grow luxuriantly in the Himalayas from Nepal to Sikkim, as well as in the western part of the Deccan plateau at an altitude of 1,700 to 2,500 feet. *B. balsamifera* and *B. densiflora* are the two varieties which deserve special mention. In addition to the species of Blumea, there are many other plants in India which smell strongly of camphor, some of which would probably yield camphor. The common aquatic weed of the plains of Bengal, *Limnophila gratioloides*, the *Karpur* of the Bengalis, is an example.

In the latter part of the nineteenth century efforts were first made to grow camphor-yielding plants in India. The camphor trees of Borneo and Sumatra, from which "Baros" or "Barus" camphor is derived, and a number of other plants belonging to the natural order *Dipterocarpaceae* were first tried. Gradually, however, the cultivation of these camphor-bearing trees was discontinued and attention was directed towards the most prolific camphor tree of Japan and Formosa, the *Cinnamomum camphora*. These trees were later on grown successfully in a number of localities in India. At one time they are said to have flourished in Nepal and Tipperah, between Bengal and the Upper Irrawaddy. In Ceylon the tree grows well at elevations of 5,000 feet and less. There is a fine avenue of trees in Dehra Dun and in the Botanic Gardens at Calcutta and Saharanpur. Experimental cultivation in the Nilgiris has shown that the trees do well even up to 7,000 feet above the sea level. *C. camphora* has been grown in many parts of Burma, particularly in the Maymyo and Bhamo districts. In the Southern Shan States, notably at Lawksawk, a plantation of 650 acres still exists at an altitude of 3,500 feet.

The proportion of camphor and other constituents found in the trees depends upon the climatic conditions and locality to a very large extent, as will be seen from the fact that camphor trees grown in Mauritius, and known to be the genuine variety, do not yield camphor at all. The



trees growing in India, fortunately, are much better and yield fairly large proportions of camphor, though not to the same extent as is found in trees growing in Formosa and Japan. The possibilities of camphor cultivation on a large scale are not very promising. Extensive researches carried out by Howard, Robertson and Simonsen (1923), however, show that, with proper care it is possible to increase the oil content of the plant. The importance of camphor lies in the fact that it is one of the constituents of celluloid and allied products. Nearly 70 per cent of the total output of camphor is employed in their manufacture, 15 per cent. is used for disinfecting and deodorising purposes, and 13 per cent. for medicinal purposes. Camphor is imported in very large quantities in India. According to the report of the Senior Trade Commissioner with the Government, during six months ending in September, 1931, though trade in general has undergone a marked depression, the import of camphor has slightly increased from 11 lakhs to 12 lakhs. If, therefore camphor could be successfully produced in India, it will be of some economic importance. If improved methods are adopted in India, camphor production, sufficient at least to meet the internal demands of the country, may be possible.

The exploitation and successful utilisation of the indigenous camphor resources, however, are faced with grave difficulties, and there is every probability that, in the near future, manufacture of camphor from vegetable sources may completely cease. With the rapid growth of the science of chemistry, camphor has been successfully synthesised from the terpenes, and this synthetic camphor is gradually taking the place of camphor obtained from natural sources in the commercial world. Synthetic camphor is easily prepared, and the finished product may soon be offered for sale at such a price that growing of camphor containing plants may not be a paying proposition.

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## Prevention of Tuberculosis .

The Tuberculosis Association of Bengal has been at work since January, 1929, and during these four years the work has rapidly increased. The need for anti-Tuberculosis work was always pressing, and in these times of poverty it is more urgent, the disease being largely an economic one.

According to the Report of the Health Officer of the Calcutta Corporation, there were 2756 deaths from Tuberculosis in Calcutta in 1930. In addition to these, there were 6389 deaths from "Respiratory diseases". In other countries, where tuberculosis is also not a notifiable disease, it has been estimated that from 15 per cent to 25 per cent of deaths certified as due to respiratory diseases are in reality due to tuberculosis. For every case that dies of tuberculosis, there are 10 people suffering from the disease ; this means that there are at least 30,000 people with tuberculosis in Calcutta.

The Tuberculosis Association of Bengal is now working in six dispensaries, four of which are in Calcutta, and two in the mofussil. A fifth Calcutta dispensary will shortly be opened. The Association employs 16 Tuberculosis Health Visitors (9 men and 7 women) ; the Doctors who attend the clinics are all honorary. In the dispensaries, the patients are diagnosed, and treated, and each patient is later visited in the home and instructed as to what precautions he or she must take in order to look after himself and to prevent the spread of the disease to the other members of the family. Contact cases, i. e. those who have been exposed to infection in a family, are brought to the dispensary for examination, in order that early cases may be detected and cured. In 1932, from January to October, 1354 new cases of phthisis have attended the 6 dispensaries and 10,832 home visits have been made to the homes of the people.



## HOW TO PREVENT

The prevention of tuberculosis can only be carried out successfully when the public themselves are alive to the dangers of the disease, and also to the part they can, one and all, take in its prevention. The part the Government can play is to make tuberculosis a notifiable disease, and this is an urgent need. Until this is done, there can be no accurate information as to the prevalence of the disease. One of the many advantages of notification is to enable those concerned with the prevention to visit and instruct the affected people, instead of having to search for them by means of house to house visiting. The remainder of the preventive measures must be carried out by the patients themselves and their relations, and they must be taught what to do. The public must be taught to look out for the early signs and symptoms of phthisis, for there is no doubt that "early discovery leads to recovery". The Association does propaganda work by means of lectures, Health Exhibitions, distributing literature, etc. Lectures are given to school children as well as adults. Post-Graduate courses for medical practitioners are also held. As far as it lies in its power, the Association does all it can for individual cases, arranging, where possible, for them to go to Sanatoria and Hospitals. The difficulties met with can be imagined when one knows that there is only one Sanatorium in Bengal, at Jadavpur, and it has about 70 beds. Hospitals can only allot very few beds for such a chronic disease, each tuberculous patient making an average stay of 141 days in Hospital. Sending a patient to a Sanatorium is an expensive business, as the few free beds are rapidly filled as vacancies occur.

## WORK ABROAD

The association keeps in touch with similar Associations working in England, France, U. S. A., so that it may utilize the results of their experiments. It



should always be remembered that the following results have been obtained in England, Scotland, and U. S. A. and that a similar result is possible in India.

Deaths per

400,000

	1871	1921	1928
Scotland	373	122	97
England & Wales	354	113	93
	1900	1929	
U. S. A.	202	76	

As so much of the work of the Tuberculosis Association of Bengal is done by honorary workers, its expenses are almost entirely the salaries of the staff of Tuberculosis Health Visitors whom it employs. It is this staff, which with the valuable help of the honorary doctors carries out the scheme for prevention. The Association needs about Rs. 14,000/- annually, to carry on its existing work, and many more dispensaries are needed to do the work efficiently. It receives grants from the Calcutta Corporation and the Howrah Municipality and relies on the generosity of the public for the rest of its money. On December 10th, Saturday, Matches will be sold in the streets to raise money for the funds of the Association. The public should remember that in helping this work, they are indeed helping to protect themselves and their families from possible infection, as tuberculosis is a disease of all races, and all classes and in Calcutta city it is so widespread that no one is safe from infection.

It may, however, be mentioned in this connection that the association has been trying to prevent the fell disease from its own standpoint ignoring, at the same time, other aspects of the problem. We do not, by this remark, mean to minimise its efforts in this direction, rather we praise it whole-heartedly for what it has been doing.

It is a common adage, known to all, that prevention is always better than cure. It is therefore a matter of great regret that while the association has been trying to cure the patients, it forgets to take upon itself the duty of



prevention of the disease itself. The task of prevention, at least that of control, is not very difficult, nor is it very expensive, as the ætiology and mode of infection of the disease are very clear.

The disease is an infectious one and is generally found among hard-working, poorly-fed townspeople. It affects females, pent up in ill-ventilated rooms, than males enjoying open air.

There may be causative bacteria that are the cause of the infection, but these or any other bacteria are to grow in the human organism and produce the disease. They do not invade a tree or a rock but the animal organism, specially the human. The aim of medical science should be directed towards making the human system sterile for the growth and culture of these bacteria, so that, when attacked, it may make the bacteria unproductive and harmless. It is a common fact that human flesh is hier to all sorts of disease, as disease germs abound in infinite unnumber all the air we breathe.

Ayurveda also teaches us that we are taken ill only when we transgress or violate the laws of health as regards diet and mode of living and thereby cause the derangement of any or all of the three *Dhatus*.

Tuberculosis or Phthisis is a disease in which all the three dhatus are deranged, so that we must see that no error is committed with regard to our diets and mode of living, especially when we are to live in places where tuberculosis incidence is a possibility. We can of course attain our object by adapting ourselves to the following prophylactic measures :—

Adequate and sufficiently nutritive food ; sufficient exposure to the morning sun ; Parking or walking in the morning, may be for a few minutes, in any park nearby ; Performing our ordinary work supplemented by moderate labour where necessary ; Ensuring or courting sound sleep at night ; Avoidance of too much fatigue, too much exposure to sun or fire, cold or damp ; avoidance of sexual abuses and intoxicating drugs ; in a word, strictly conforming to the mode of living enjoined upon us by Ayurveda.

In our opinion, the association should complement their efforts with this aspect of the problem and try to educate the mass in this line and we are sure the result will be a complete success!



## Original Articles.

## GHEE AS FOOD AND MEDICINE IN AYURVEDA

BY

BHISHAGWARA V SUBBARAO. A. M. A. C.

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## Use of Ghee in Atisara (diarrhœa)

How ghee is medicine in Atisara? Sushruta says, Ghee mixed with rock-salt and yavakshara should be given to a patient of weak digestive power in a case in which the Vata has not been restored to its normal condition in spite of the subsidence of the intestinal sula (gripping pain) and which is marked by scanty and repeated motions passed with pain. And, ghee duly cooked, with Nagara, Changeri, and Kola and with milk curd and Amlakanjika etc. or the transparent part of ghee should be taken as a relief for diarrhœa attended with Sula.

Ghee with yavakshara should be given to a patient with due regard to the state of his digestive power if after being treated with fasting etc. he be still found to be affected with sula and dryness and if the stool would be found to be free from mucus, i. e. in a case of *Pakvatisara*. The *colic of diarrhœa* is relieved by taking ghee duly cooked with Bala, Brihati, Amsumati, Kacchure, honey and Yashtimadhu.

Charaka recommends in *Pakvatisara* Changerai ghrita and Chavyadi ghrita. He says oily enemata with (1) ghee boiled with Vacha, (2) ghee boiled with Sati, Satahva, Mîsreya and Kushta and (3) ghee boiled with Chitraka are highly beneficial in a case of *Pakvatisara*.

Ghee cooked with Darvi, Bilwa, Pippali, Draksha, Katuki, Indrayava is beneficial in a case of diarrhœa due to Vata and Pitta.

Application of *Piccha Vasti* with medicated ghee duly prepared with the expressed juice of the barks of the slimy trees, e.g. Syoma, Salmali etc. is beneficial in *Chronic and longstanding* cases of diarrhœa. In a case of *tridoshaja Atisara* of a severe type, draughts of ghee duly prepared with the barks of Devadaru, and with Pippali, Sunthi, Laksha, Indrayava, and Katuki administered through the medium of any kind of *Peya* would prove highly beneficial.



In a case of Atisara attended with Sula, where the patient feels a good appetite after the loss of fecal matter, ghee duly cooked with astringent and appetising drugs should be given.

In a case of atisara marked with a discharge of blood before or after the passing of the stool and with a cutting pain, draughts of ghee duly prepared with tender sprouts of kshiri trees and mixed with honey and sugar should be taken. (*Susruta*)

In diarrhoea characterised by discharge of blood, if one having drunk ghee prepared from (Vaccine) milk, takes meat juice from the flesh of francoline partridge, he is cured in three days.

When one's rectum has been, through excited Pitta, inflamed in consequence of repeated acts of evacuation, the rectum should be sprinkled over with :—

(a) Ghee raised from Vaccine milk and honey, or

(b) ghee raised from goats' milks with sugar and honey. If the discharge of blood continues copiously, notwithstanding the sprinkling with the above combination, then the rectum, groins, the waist and the thighs should first be rubbed with ghee and the sprinkling should go on afterwards, or may be paved with ghee washed hundred times (*Satadhoutaghrita*), using a soft wick of cotton for applying it

Generally the rectum of those persons that suffer from diarrhoea becomes weak, hence ghee should be constantly applied to their rectum.

Unto a patient who discharges blood either with or before or after the evacuation of stool in Atisara, the physician should prescribe Satavari ghrita as a linctus for him.

In a case of *kaphatisara* accompanied by pain and straining, the patient may be given ghee mixed with sour juices or the Shatphala ghrita or Purana (old) ghrita mixed with manda of barley.

#### *Use of Ghee in Grahani disease.*

In Ayurveda four varieties of digestive fire have been mentioned and it is a well known fact that the main seat of the digestive fire is Grahani. Excepting that variety of fire called 'Sama', the rest, Vishama, Tikshna and Manda are considered to be the faults of Grahani (duodenum).

Snehadravyams like ghee should be known to be the foremost of those which enkindle the weak digestive fire. Hence heavy food is



not capable of extinguishing the digestive power that has been enkindled by the administration of Sneha. As the fire of a dry solid wood burns steadily for a long time, even so the digestive fire of human beings becomes steady with the aid of an oily food.

One who afflicted with a grahani disease has a weak digestive fire and who on that account passes undigested stools in copious measure should drink ghee in proper measure mixed with 'dipana' drugs. By this means, the Samana vayu, restored to its own place, makes the individual cheerful and in consequence of its proximity to the digestive fire strengthens it.

If the man suffering from Grahani passes very hard stools with difficulty, he should take ghee mixed with rocksalt along with his meal (boiled rice).

If one suffering from Grahani has his digestive fire weakened through the use of dry articles, he should then drink ghee with drugs that are 'Deepana'.

If the digestive fire of a person suffering from supervening ailments like fever, etc. in a grahani disease becomes weak, he should take ghee boiled with 'deepana' drugs.

If the digestive fire becomes weakened through fasts, one should then take ghee boiled with gruels of barley, etc. If the digestive fire is weakened in consequence of stuffing the stomach with food, then ghee boiled with 'Deepana' and 'Vringhana' drugs should be taken.

Ascertaining that the *ama* of the person suffering from Vataja Grahani has been digested, the physician should make the patient drink in little measures ghee mixed with 'Deepana' drugs. In a case of Vata grahani, Mahapanchamuladi ghrita is highly beneficial. Ghee prepared with Madiphala cures the sula pains of Vata Grahani.

For a case of Pitta Grahani, preparations like Chandanadi Tikta and Mahatikta ghritams are used. In a case of Vata Slesma grahani, ghritams like Dhanvantari, Shatphala, and Bhallataka should be prescribed. In addition to these, we find many ghritams recommended by various authors in Grahani. Hence Ghee is exclusively used as medicine in Grahani disease.

(To be continued.)



**BERIBERI OR EPIDEMIC DROPSY.**

BY

KAVIRAJ A. C. KAVIRATNA

CALCUTTA.

History—Beri-Beri first broke out in Howrah in 1907 and then again it made its appearance in Calcutta and other parts of Bengal in 1919 and in 1926-1932.

Outbreak of Beri-Beri in each occasion occurred in rainy season, that is, in the months of June and July. Death rate on each occasion was very high. In 1932 it did no less havoc than before.

It is generally found that persons suffering from Beri Beri are preceded with an attack of diarrhoea, dysentery, indigestion and stomach or heart complaints rendering the person weak prior to the attack or this fearful disease.

Symptoms—Usually symptoms are swelling, pain, indigestion, fever and scanty urine. Legs and feet begin to swell, sometimes swelling rapidly extends to upper parts of the body affecting eye-lids, abdomen, etc. Throat and lungs are sometimes affected and heart is generally dilated. Patients at times develop nervous debility, head-ache and nausea, looseness of bowels. Pulse becomes feeble, rapid, so much so that beating varies between 120 and 130. During pregnancy, foetus often dies after a few days of attack. Sometimes bowels are constipated. In some cases eruption appears on the body.

It is often noticed that persons living in damp atmosphere and on irregular or low diet fall an easy victim to this disease. Literally, weakness, low vitality and lack of resisting power due to deficiency in the quantity of blood in the human system on account of improper nourishment and deficient quantity of chemical properties, vitamin and nutritive substances of food and water which is not rich with chemical properties, i. e. Soda, Iron, Lime, Phosphorus etc. and the organic minerals, impair digestion and weaken the human frame. Torpidity of liver and stomach troubles also bring in considerable weakness. Milled rice, milled Atā lose their nourishing value due to over-hauling, over-boiling and over-husking. Rice stored in damp places is absolutely unfit and unhealthy for human consumption and develops indigestion. Consequently, rice is considered responsible for the causation of the disease. But



adulterated Ghee, Oil and milk play no less an important part to impair and undermine the health and digestion of human being than rice. The disease is a visitant of rainy season when the air of the atmosphere is surcharged with moisture, dampness and less proportion of oxygen. The sky being cloudy, larger portions of moisture and impurities enter human system and as a result human machinery becomes weak and heavy on account of the blood having been surcharged with abnormal quantity of water, making the people susceptible to an attack of Beri-Beri. Non-vegeterianians are more susceptible to Epidemic Dropsy than rice and vegetable eaters.

**Management**—The patient should be kept on absolute rest from the very onset of the disease in any dry place of higher altitude. Medicines that help absorption and equidistribution of water in the various tissues, cells and other parts of the body should be prescribed. Diet should be wholesome, salt free, nourishing and free from adulteration and should be given at regular intervals and at regular hours, so that the function of liver and digestion is not retarded or overexerted.

The dietary should be salt-free, as the use of excessive salt (Sodium Chloride) raises blood pressure and produces arteriosclerosis. Consumption of excess of salt (Table Salt) leads to chronic diseases of kidneys, interferes with the digestion and induces hyper-acidity. Salt over-taxes the kidneys and over-stimulates the gastric glands and, when taken in excess, engenders Bright's disease, dropsy, varicose of veins and several other complications.

Salt in organic form, as found in vegetables and fruits, is conducive to health and process of digestion but not inorganic one which should be totally discarded to achieve the desired end.

**Articles of dietary**—Atap (sundried rice), rough Dhenki rice (i. e. rice with outer coating) cooked with gruel in it or better *Khitchuri* made of Moog dal or Musur dal should be freely given. Fresh vegetables should be taken in larger quantities.

Parched rice, Khoi, Chira, Murki, germinated oats (chhola), curd, whey, Salad, raddish, Cauliflour, Lady's fingers, raw papaya, green plantain, figs, Punarnava herb, Mango-Steen, oranges and lemons of every description should be freely used with advantage.

In my practice, I have found the following prescriptions very useful and efficacious, if employed with a little intelligence



according to the condition of the patients and the nature of the disease.

R/

1. Sora (Pot. Nitr. ) Gr. 10

Infusion Moringa

Sajina Root Oz. 1

One ounce thrice daily.

2. Moringa Root 1 oz.  
Mustard 1 oz.  
Boiling Water 1 pint

Boil it over fire to reduce it to  $\frac{1}{2}$  pint. Dose one oz. thrice daily

3.

Sothari Lauha 3 to 5 grains

With honey and 2 Oz. juice of Punarnava—once a day.

4. Punarnava ( Spreading hog weed )

Nim Bark ( Mergo Bark, *Citrus Acida* )

Palta ( Leaves of Patal )

Sunth ( Ginger )

Daruharidra ( *Barberis Aristata* )

Har ( Moch Rasa ; if there is looseness, *Bombax Malabaricum* ), Goloncha ( Sat Gila )

Katki ( Black Hellebore ), Indrajab ( if there is looseness, Kurchi seed )

5. Punarnava ( Spreading Hog Weed )

Daruharidra ( *Barberis Aristata* )

Devdaru ( *Cedrus Deodara* )

Sunth ( Ginger )

Har ( *Myrobalam chebulic* )

Barun Bark ( *Crataeva Nurvala* )

Sat-Gila ( *Goloncha Tinospora* )

Arjoon Bark ( *Terminalia Arjuna* )

Mochrasa ( *Bombax Malabericum* )

Bamanhati ( *Clerodendron Serhatifolium* )

Take equal quantity of each of the above ingredients, total 2 tolas in weight. Boil them in 16 Oz. water over fire, reduce it to 2 Oz., strain the decoction through a piece of linen, Dose 1 Oz. twice daily.



# BLOOD--The Human Motor Fuel

by

August Severson

Human blood is a somewhat sticky liquid, red in color, a little heavier than water with a peculiar odor, a saltish taste and has a temperature of approximately 100° Fahrenheit. Its reaction is slightly alkaline.

The quantity of blood contained in the body of an adult person is estimated to be about one-twentieth of the body weight. Thus, in an individual, weighing 160 pounds, the blood content would weigh about eight pounds or measure four quarts.

To the naked eye, blood appears opaque and homogeneous; when examined through a microscope, it is seen to consist of minute particles called cells or corpuscles floating around in a transparent yellowish liquid called plasma.

The functions of the blood are many:

1. It serves as a medium for the interchange of gases. In other words, it carries oxygen to the cells and carbon dioxide from the cells.
2. It serves as a medium for the interchange of nutritive and waste materials. Or it carries food that has been prepared by the digestive system to the cells and removes the waste material from the cells.
3. It serves as a medium for the transmission of internal secretions.
4. It helps to maintain the temperature of the body.
5. It aids in equalizing the water content of the body.
6. It protects the body from toxic substances.

There are three sorts of corpuscles in the blood, viz., Red corpuscles, white corpuscles and bloodplatelets.

The red corpuscles are round discs—very minute—consisting of a colorless, filmy elastic framework. They have no nuclei; they are soft, pliable and elastic, so they may readily squeeze through apertures narrower than their own diameters. In every red corpuscle is deposited a substance called hemoglobin—an iron-containing compound and a protein. The average number of red



corpuscles in a cubic millimeter of healthy blood is given as 5,000,000 for men and 4,500,000 for women. Pathological conditions, temperature, altitude, the constitution, nutrition and manner of life causes the number to vary. The function of the red corpuscles primarily is that of carrying oxygen.

The white corpuscles are typical cells, containing a nucleus, sometimes two or three nuclei. They are variable in size and are really grayish in color. The number of white cells in a cubic millimeter of healthy blood is from 5,000 to 7,000, a proportion of about one white to 700 red ones.

White corpuscles are classified according to the size and shape of their cell bodies and nuclei or according to the way in which they behave toward aniline dyes. The two great divisions are : 1. Lymphocytes, which may be either large or small, and 2. Leucocytes, under which title are included the polymorphonuclear, eosinophils, mast-cells and monocytes. The functions of the white corpuscles are to protect the body from pathogenic bacteria and other foreign organism—to promote tissue repair by stimulating the processes of absorption and growth—to aid in the absorption from the intestines—to aid in the clotting of blood—and in keeping up the normal supply of blood proteins found in the plasma.

BLOOD-platelets are irregularly shaped bodies of protoplasm which are smaller than the red and white corpuscles. They usually disintegrate and disappear when blood is removed from the circulatory system. The functions of blood-platelets are to help in the clotting of blood and to furnish the blood with prothrombin.

The plasma is a complex fluid of an amber color in which the different cells float, and serves as a source of nutrition and means of removing waste products that result from their functional activity. More than four-fifths of plasma is water. The blood proteins—fibrinogen, paraglobulin and serum-albumin—the nutrients, salts, waste substances, gases, endocrines, enzymes, special substances—antithrombin and antibodies are all found in the plasma which makes up our blood.

Blood to the ordinary person means just a red fluid that courses through our veins and arteries. Very little thought is given to its importance and the vital part it plays in the maintenance of good health and long life. A clean bloodstream means perfect health. The only way to obtain it is by eating the pro-



per foods and food combinations which after digestion and absorption will not only make and keep clean blood but will be in a healthy condition to carry nutriments to every cell that composes the human body.

(*Nature's Path.*)

### Medical Tit-Bits.

**Question :** What causes mucus in the system ?

**Answer :** The thing that causes mucus in the system is the usual meals the average person eats. Meat—milk—eggs—white flour—gravy—and everything made of white flour ; white rice, pearled barley, peeled potatoes and other foods of high starch content. This diet clogs the cells of the body, is difficult to eliminate and will cause congestion of nearly every organ.

**Question :** Should more than three meals a day be eaten.

**Answer :** We should never eat by the clock. We should eat when we need food. Heavy meals—if you must eat them—should be spaced hours apart. A little food at frequent intervals is not harmful—but be sure that the stomach has time to rest. The idea of three meals a day is correct but none of these meals should be heavy.

**Question :** Why is white sugar harmful ?

**Answer :** White sugar is deficient in organic salts. White sugar is almost pure carbon—therefore, when sugar is taken into the body, it breaks down the cells in order to furnish sufficient alkaline elements to neutralize the carbonic acid which it forms. I consider white sugar dangerous to health.

**Question :** Should children eat the same food as adults ?

**Answer :** Adults and children should not eat the same kind of food. Adults need nerve, brain, alkaline and eliminating foods—children need the above but in addition require more calcium than adults and more proteins for growth and development. Then again, elderly persons should eat food that is easily digested and eliminated. Their digestive organs are not, as a general rule, as robust as a growing youngster.

**Question :** What is your opinion of fried foods ?

**Answer :** Fried food does not bear a good reputation. To begin with, foods cooked in this manner are cooked at too high a



temperature—most of the vitamins and body essentials are destroyed. The medium in which frying is done is usually not a good one. Fried foods do not digest readily and form acid and bring on constipation. They are dangerous to the human system.

**Question :** What is the remedy for goiter ?

**Answer :** There are many forms of goiter. A simple goiter is a mere enlargement of the thyroid gland. Eating animal protein is usually the cause of this condition and an elimination of such meats from the diet should aid in freeing the system of this dangerous encumbrance. A goiter is the body's protection in furnishing the system with more thyroidine to combat harmful bacteria.

## HEALTH AND HYGIENE.

by

Elizabeth MacIntyre

As we make a study of the animal kingdom—and after all, man, while the highest type is still an animal—we find, as a rule that none of our domestic animals take on fat during early life. Kittens may look plumb but this is usually due to an abundance of fur—not to fat. The mother cat does not permit her babies to suck as often and as long as they like. It is only when they grow older and are fed by humans that they develop a paunch. Calves are very thin and angular even when fattened for market. Young pigs, though plump and round, have no surplus of fat; the wise farmer never fattens it until it has reached a certain age—he has learned that early fattening stunts the growth.

A colt suckles little and often but his total diet never suffices to fatten him.

Common growth, as we all know, or increase of weight for the first two or three months after birth, is from onehalf to one pound a week. However, this is abnormal and does not represent healthy growth. It is merely a taking on of fat and means disease.

Over-feeding, if continued, will so impair the organs of digestion that they will be unable to perform their functions.



Soon, no matter how great the appetite or how much food is consumed, a child will literally starve to death.

No definite rule can be given for the amount of milk necessary for a hand-fed baby of any given age. An infant of six months, however, should grow and be well-nourished on about a pint a day, divided into three feedings—6 A. M., 12 M. and 6 P. M. The entire night should be devoted to sleep and a child that is properly nourished and not overfed during the day will sleep soundly the whole night through. Never should a child be wakened any time, night or day, for a feeding, merely because it is "time." It will not do a bit of harm if an occasional meal is skipped.

It is the fond ambition of most parents to have the fattest baby in the neighborhood—the chubbiest rollypoly on the block. Why this is, I never could understand. But, of course, the parents do not realize that the fatter a baby is, the more likely it is to die before it is a year old. Man's normal condition is not that of obesity.

Do you feed the baby the same in Winter as in Summer. Most likely you do. Yet on hot sweltering days, you choose a green salad or fruit for yourself but never apply this principle to your suffering infant who does not know any better than to swallow milk as long as it tickles his palate.

Excessive eating produces great thirst that the undigested fermenting masses of food may be washed away and thus allay the internal fever. Adults usually drink water—they know better than to drink milk which is a food. Yet, when a baby fusses and tries to protest or to tell you that his little stomach is full of acid, and that he needs something, that something is usually sure to be milk—the very thing he ought not to have under the circumstances.

Horses, cattle, hogs, sheep, fowl etc. are fed according to the best studied laws. Children are neglected. As a rule, under-nourished children get plenty of food as far as quantity is concerned and often times too much, but the quality is inferior. No attention is given to harmony or the child's needs.

"In the six largest American cities are sixteen millions of school children with physical defects of the heart, eyes, stomach, bony or muscular system, due to bad or improper eating, exercise, vaccinations or serums."



Is your child going to be among this number when it reaches school age? It all depends upon the mother and her knowledge of dietetics with relation to her child.

Do not trust the care of your child to a nurse or trained attendant. Try to realize that God bestowed upon you his most precious gift when he sent the little one to your home. No matter what your life work has been or the ambition you have harbored in your heart, your duty now is to nurture, train and raise that child that it may become an upstanding, respectable, healthy.

( *Nature's Path* ).

## THE THERAPEUTIC ASPECT OF OLIVE OIL

*Dr. DeWitt C. Reed in the October, 32 issue of the  
Nature's Path writes :—*

THE use of Olive Oil in therapeutics, by ingestion, has been in vogue from the most remote antiquity, and in many of the countries, this treatment has enjoyed large popularity for a long time, more particularly perhaps in connection with disturbances of the liver, digestive organs and nervous system.

People have always had an inherent regard for Olive Oil and were at all times throughout recorded history ready to accept even pre-conceived notions as to its health value long before popular judgment, some thirty odd years ago, began to be succeeded by confirming conclusions based on scientific experimentation.

The history of the olive tree itself is almost contemporaneous with that of man and according to the Old Testament it was an olive branch which the dove brought back to the Ark in its beak showing Noah that the waters were subsiding. And it is a tribute to its hardiness that whereas Noah had to replant the vine, the olive tree survived the inundation. Because of its health value, Moses, in his agriculture laws, exempted from military service those engaged in the preparation of the olive up to the point of the first crop. Homer in his Iliad mentions Olive Oil as the first requisite to the warriors after their bath and explains how they used it in the practice of what we term "rub down" today.

As is generally understood Olive Oil is a natural fatty oil extracted from the thick pericarp and kernel or pit of the olive. There are numerous varieties of the oil, however, and



this results from the method of extraction. The finest Olive Oil, purest in character, comes from the first pressing and it is this oil, blended to suit the taste, which comes to us in this country through importers of the best Italian, Spanish and French brands.

Olive Oil was employed in biliary lithiasis long before it was used in other diseases. Touatre, a famous physician, proposed in 1887 the treatment of hepatic colic by Olive Oil in large doses and was followed in France by Chauffard and Dupre and later by German See, Villemin and Pillion. According to some authorities, an American Physician Kennedy, was the real originator getting his inspiration from the American Indians. In any event, since first reports, experimentation investigations have proved that when Olive Oil is taken into the human system part of it is eliminated through the biliary passages while part of it lubricates the walls as no mineral oil can possibly do.

As a laxative, Olive Oil is of utmost value. The exact dosage for an adult differs as it depends chiefly on the digestive capacity of the individual. One or two tablespoons may have to be taken three times daily either an hour before meals, or if this interferes with the appetite, two hours after each meal. If the patient prefers it, a single dose of from one-half to one wine-glassful may be administered on rising or two hours after breakfast. If this dosage is insufficient, it must be increased until the desired effect is produced or the limit of tolerance is reached. In the administration of large quantities of Olive Oil, such as are contemplated for therapeutic effect, the natural repugnance of many persons against drinking fat must be considered. Large quantities therefore may be introduced into the system with relish in the form of home-made mayonnaise or French dressing, in which, if desired, lemon juice may be used instead of vinegar. A very interesting method is one advising the mixing of Olive Oil with hot milk. As these are about the same specific gravity, they mix perfectly in the form of an emulsion and remain in this condition for a short time (half a minute). Those who dislike milk might prefer to take the oil floating in fruit juices such as lemon, orange or grape juice. In the course of time, people, almost without exception acquire a taste for Olive Oil and then are able to take it with relish in almost any reasonable form. In giving Olive Oil to



infants, it may be well to add that physician's advise that it is best to begin with one-quarter teaspoonful once or twice daily until a dose is given after each feeding. It may then be increased to half a teaspoonful at a dose if required. It is inadvisable however to use more than 10 or 15 cc. in a day in the case of a young infant. If the character of the stools becomes abnormal, remind the physicians.

The intelligent use of pure Olive oil doses of not less than six tablespoonfuls taken in connection with overripe bananas, dates or any other fruit in a meal or two daily, with nothing else, has been found to be the most effective natural weapon known to combat practically all forms of neurasthenia, commonly called, weakened nerves. Raw fruits and vegetables, such as lettuce and grated carrots, swimming in Olive Oil and made to comprise a single meal, have been found most helpful and some people have varied their diet by taking a dish of raw sauerkraut, soaked in Olive Oil.

We have read the testimony of people who have found Olive Oil effective in cases of insomnia where nothing else has aided and it is said that indigestion is practically unknown in Italy because of the wide use the Italian makes of this valuable contribution nature has made to human welfare.

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## FASTING IN HEALTH AND DISEASE.

DR. PANCHANAN BOSE, M.B. ( Cal. ), M. D. ( Berlin ) says that fasting is enjoined in almost all religions in the world as a means of purifying the body and elevating the soul, to higher spheres of spiritual and mental activity. In Ayurvedic literature complete fasting or semi-fasting has been recommended for the cure of various illnesses. In modern times, fasting is advocated by all believers in the cure of diseases by natural methods. There are special institutions in America and Germany where diseases are treated only by a prescribed period of fast under the supervision and direction of experts and this is followed by restricted diet and re-education of the patients' system to a diet which is suitable for combatting the disease from which the patient is suffering. This method of treatment has been called the physiological method or in other words, the method which nature resorts to, when some of the internal functions are deranged. In the animal world, we



find the animals refusing food whenever they are ill. The highest and most intellectual animal, man, however, commits the gravest blunder by stuffing himself with food and then procuring bottles of medicine from the chemist's shop, for helping his process of digestion and assimilation. A person who may be otherwise very well educated may lack the necessary power of reasoning or commonsense, when it comes to fasting or restriction of diet. It is needless to add that most people, who can afford it, have a tendency to overfeed i. e., take such quantities of food that is not necessary for his body. Most people forget that we have to regulate the intake of food according to the amount of physical and mental exercise and the temperature of the surrounding air. In a hot country like India excessive intake of carbohydrates and fatty food and even excess of protein food like meat is not at all necessary. Thus many people overfeed themselves without knowing that they are committing any dietetic error. It is this systematic overfeeding and unbalanced feeding i. e. taking excess of one kind of food in proportion to the other kinds ( as excess of sweets or starchy food or excess of meat or protein diet etc. ) which is responsible for the great frequency of diseases like Dyspepsia, diabetes, High blood pressure, Apoplexy etc. We have to educate the public on the matter of rational dietetics and the need for fasting, whenever there is reason to suspect derangement of digestive functions as a result of overfeeding.

### Fasting in Health.

The Hindu widows fast regularly twice in the month. Many elderly persons fast or restrict their usual diet on certain days of the lunar month ( *Ekadasi* or 11th day and full moon and new moon ). The popular idea is that there is an increase of bodily humours or fluids on these days and this can be checked either by complete fasting or by restriction of diet either by avoidance of one principal meal or by the replacement of the usual diet by fruit and milk diet or some other light diet according to the taste of the people concerned. Though the moon exerts profound influence on the movement of surface water near the seaside, as evidenced by tides, still science has so far not been able to demonstrate any influence of the phases of the moon on the body fluids. Diseased persons, however, sometimes complain of aggravation of their symptoms, which may correspond in some measure with the phases of the moon. However that may be, it is practically certain that



persons who continually overfeed themselves and suffer from constipation do show signs of intoxication as a result of absorption of poisons from their intestines and colons. The symptoms of chronic auto-intoxication are very varied. Some may suffer from headache others complain of vague pains in the limbs and joints ( the so-called muscular rheumatism ), still others may suffer from lassitude, loss of spirits, fatigue and exhaustion which is often ascribed to weak nerves or the so-called neurasthenia. A furred tongue, bad breath and bad taste in the mouth, want of proper appetite, gaseous distension of the stomach or intestines, simple gripes or more colicky pain are some of the other signs and symptoms of chronic constipation associated with overfeeding. Many persons suffering from the above symptoms take to habitual use of laxatives, bed pills, digestive stimulants or tonics of all sorts. If these people would try and reflect for a moment, they should be convinced that the best way to treat such disorders is by observing a fast day and drinking plenty of water, so that the digestive organs including the liver, which is the biggest chemical laboratory in the body, may get adequate rest in order to recoup their strength and destroy and eliminate the poisons which have been already absorbed into the system. If afterwards the diet is regulated as to quantity and quality in order to supply the biological needs of the individual and ensure regular action of the bowels, then the individual can free himself from the clutches of the medicine bottle. But unfortunately most people cannot control their palate according to the dictates of reason and to physiological needs and hence the necessity of resorting to the fast at regular intervals of a week or fortnight.

Persons, whose weight is above the standard weight corresponding to their height or who have a tendency to grow fat and flabby, should do well to undertake a fast at intervals of a week or ten days. Also persons, who are over forty years of age, will do well to fast for a day in the fortnight in order to prevent the onset of diseases, which attack the human body with the advance of years.

### Fasting in Disease.

It is imperative to enjoin fasting in all diseases affecting the gastro-intestinal tract and liver. In acute upset of the stomach accompanied by vomiting or purging, the patients should not take anything except sips of warm water or light tea sweetened with



saccharin or placebo diet, consisting of a teaspoonful of Toxinol, stirred in half a tumbler of warm water. This will make them feel that they are taking in some nourishment, while the colloidal silicate of aluminium, which is the principal constituent of Toxinol, will form a loose combination with the poisons or toxins present in the alimentary canal and prevent their absorption into the blood. "Toxinol" is thus a valuable aid in instituting fasting cure in various diseases.

Sluggish liver, biliousness, inflammation of the liver (hepatitis), jaundice, and degenerative diseases of the liver (fatty liver or cirrhosis of liver) should be treated by a preliminary fasting followed by strict regulation of diet with curtailment of proteins and fats. Fruit juices, or vegetable broths may be given after the period of fast followed by whey, sour milk or skimmed milk according to the needs of the case. Saline aperients like Mag. sulph. or Sodii Sulph. in dram doses and concentrated solution of salt may be given at the beginning of the fast in order to clean the stomach and duodenum and excite the free flow of bile. Caution is to be observed with the use of saline purgatives in cases of inflammation of the gall bladder giving rise to peritonitis.

In metabolic diseases like Diabetes, Gout, lithiasis (i.e., a tendency to formation of gravel or stone in the urinary passages), High blood pressure, Kidney diseases, treatment by fasting at regular intervals is one of the recognised procedures of modern medical practice. Diabetes is often due to systematic overfeeding with sweets and other rich dishes, which put an excessive strain on the pancreas and liver in their process of digestion and assimilation. The ultimate breakdown of the functions of the pancreas and the liver is responsible for the severe forms of Diabetes. Considering this causative factor, it is only rational and natural that preliminary fast of one to three days followed by dietetic restriction is one of the best means for giving functional rest to the liver and the pancreas. This will cause the sugar in the urine to disappear completely and at the same time lower the high level of sugar in the blood. A weekly fast day is also of great advantage to Diabetics. But as there is a tendency to formation of acid bodies due to incomplete oxidation of fats in diabetes and as this tendency to acidosis is increased during fasting, so a fasting cure for diabetes should only be undertaken under strict supervision of a medical



man and should be preceded and controlled by regular chemical examinations of blood and urine.

In Gout, which is usually due to excessive intake of highly nitrogenous food stuffs and consequent overtaking of the liver and the kidneys during the process of assimilation and excretion of the end products of protein metabolism, it is very essential to give rest to the liver and the kidneys by ordering a fast for a day or two. Gouty persons should be encouraged to drink plenty of water, preferably distilled water or some alkaline mineral water which will help the elimination of uric acid from the system. Lemon squash, or Orange squash is also good for gouty persons as they cause a free flow of urine and increase the alkalinity of the blood, thereby helping the solution of uric acid deposits.

In cases of High Blood Pressure associated with kidney trouble, fasting is often of immense benefit. Water and Salt intake and the amount of nitrogenous food in the diet are to be curtailed considerably while ordering a regimen after the fast.

### **Duration and Technique of Fasting.**

In case of young infants suffering from acute diarrhoea and vomiting, the period of fasting is usually confined to 12 hours. During this period, feeds of boiled tepid water sweetened with a few drops of a 1 in 50 solution of saccharin or better still 10 to 15 grains of Toxinol stirred in 4 to 6 ounces of boiled tepid water should be given at 4 hourly intervals. The period of fasting should be followed by feeds of whey or albumen water or arrowroot water with lime water or sour milk or Lactic acid milk or any other milk mixture, as may be ordered by the attending physician.

In case of children suffering from digestive disturbances or at the onset of any acute infectious disease, fasting should not be prolonged over 24 hours. During the first 12 hours, water should be given as desired by the child and later on some bland liquid diet, like barley water or whey or any other nutriment, ordered by the doctor, should be given.

In case of adults, fasting may be undertaken for one to three days. For fat and plethoric individuals, abstention from both food and drink is desirable. In other cases, i.e. those who are thinly built, water should be given during fast. A pinch of Soda Bicarb may be added to the water which is to be taken every three or four hours in order to prevent acidosis which usually manifests itself.



from the second or third day of the fast. Though prolonged fasting is recommended by specialists in fasting cure, still as a general rule we may state that prolonged fasting is attended with serious risks to life, specially in weak and debilitated individuals and should not be resorted to unless under guidance of a competent specialist. The breaking of the fast has also to be gradual. Lemon squash, Orange juice, or glucose water may be given in the beginning, followed, later on, by milk diet, combined with fruit juices and vegetable broths. Solid food is to be given only when the person has sufficiently recovered from the effects of the fast. The results of fasting cure can be spoiled by over-indulgence in rich dishes after the fasting period and hence strict regulation and restriction of diet is essential after the fast in order to derive permanent benefits to the body.

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## NOURISHING THE NEW-BORN

DR. JOSEPH H. MARCUS WRITES IN *HYGEIA* :—

It is unusual these days to see a breast-fed baby, although for an infant to have his mother's milk is one of the greatest advantages that a young and healthy parent can bestow on him. Even if the trend is toward artificial feeding as opposed to breast feeding, it is well to keep in mind what nature intended for the good of both mother and infant. Cow's milk was primarily intended for the stomach of the calf. Modesty and fashion may be subordinated to the welfare of the coming generation, if health permits. Substitutes for breast milk require measured care and constant supervision.

There is no perfect substitute for mother's milk. On this the baby thrives best, develops normally, suffers least from nutritional disturbances, and obtains the best foundation for minimizing sources of illness. Mortality statistics demonstrate beyond a doubt that only one breast-fed baby dies during its first year of life to every ten babies who are bottlefed. The breast-fed baby thrives better, is less liable to rickets, seems to possess certain immunity in early infancy, and is especially well able to withstand infection. All attempts to produce a cow's milk that is chemically equal to human milk and thus to make it equally valuable have failed. It has been stated with some truth that "the feeding bottle has killed more infants than gunpowder has killed adults".



Frequently mother's milk has become restricted to emergencies and to the feeding on the premature baby. The secretion of milk for the nourishment of their young is a function of all female mammals and from time immemorial it has been recognised that the mother's milk is the only single food that is physiologically suited for her infant. It forms the physiologic connection between mother and infant although the anatomic connection between them has been severed at birth.

The size of the breast gives no information regarding its ability to secrete milk. It may contain little milk-producing structure and be rich in connective tissue and fat, which makes it appear large. Such breast will secrete little milk, while a small breast rich in glandular structure will produce an adequate supply of milk for the new-born child.

A galactagogue is a substance that, when given to the mother, will help the process of lactation or milk formation. Numerous medicines are offered for this purpose, but there is no scientific evidence that they produce appreciable results. The good effects occasionally seen after the use of such galactagogues are mostly psychologic rather than physiologic. Pituitary gland extract, for instance, undoubtedly produces a flow of milk from the breasts; this, however, is not due to increased secretion but to the action of the active principle of the gland extract on the muscle fibers of the breast causing them to contract and expel the milk already in the breast. Massage and manual manipulation will do the same.

The best ways to ensure a good flow of milk include the following: the complete emptying of the breasts by manual expression, if necessary, after each feeding; regularity in nursing; healthful living; good nourishing food, neither too little nor so excessive as to cause indigestion; a plentiful supply of fluid, a reasonable amount of exercise, and above all, freedom from worry and undue excitement.

The new-born babe that has breast feedings only, that is not vomiting and has no diarrhoea, but is not gaining in weight, is receiving food deficient in either quality or quantity, or both. An accurate method of ascertaining the quantity of breast milk the baby receives is to weigh the baby before and after each breast feeding; the difference between the amount he should get and that taken from the breast may be made up by bottle feeding. To



obtain an average, the weighing should be done with every feeding during a period of twenty-four hours. More food may be obtained from the breast at certain nursings than at others during the day. Following the use of complementary feedings, sufficient milk is sometimes obtained from the breast, making it unnecessary to continue with the complementary bottle.

The first secretion from the mother's breast is termed colostrum which gradually changes in composition from day to day. About the fourth day, it becomes practically indistinguishable from true milk. Certain immunizing elements against disease are believed to be present in human colostrum, conferring immunity to the baby in the early infantile period. In addition, this forerunner of milk is a useful material to accustom the infants' alimentary tract to the work of digestion.

In considering the hygiene of the nursing mother, if she is overfed and does not take sufficient exercise, there frequently appears an excess of protein in her milk, causing the baby indigestion, with subsequent colic. The milk is manufactured out of mother's blood, and it is necessary that her diet be sufficient to supply her own needs, as well as the baby's requirements. Schick's rule, as a popular guide, is "A nursing mother should eat as much of each article of food as her nutrition requires and, besides this, she should eat of each article of food one half as much again for the purpose of milk production". This is a simple rule to follow.

If certain foods disagree with the mother such as shell-fish, spicy foods and highly acid fruits, they should be barred on account of the likelihood of their upsetting the mother's digestion with the formation of toxins that may pass to the baby. Again certain foods, such as asparagus and cabbage, may impart a peculiar flavour to the milk that may be disagreeable to baby. The diet, however, must contain an adequate supply of vitamins ; otherwise the vitamin content of the milk will be defective and so cause subsequent nutritional disturbances and evidence of illness in the baby. Spirits and liquors should be forbidden, although light wines, beer and moderate smoking are permissible.

An adequate supply of non-stimulating or bland fluid should be taken in order to provide enough fluid for milk formation as well as for proper kidney and skin elimination and for aid in evacuation of the bowels.



### Bronchial Ills

IN cases of bronchial ills, the mucus mass is not properly expelled. The slimy, pus-like contents of the bronchial tubes easily cause an irritation that brings on the cough. In order to get relief, the foot end of the bed may be raised. This is specially valuable if done in the morning, because during the night and during the sleep much mucus matter has accumulated. It is usually advisable to begin by lying flat in bed without a pillow and gradually raise the foot end of the bed. The body should not remain in this position longer than one hour.

### Cosmetics

IT is estimated that the American woman spends twelve times as much money in a year on cosmetics as she does on literature. Beauty culture is twelve times as costly as mind culture. Yet cosmetics do not create beauty. Real beauty can only be obtained through perfect health, and health is the cheapest thing on earth to those who hold the secret. The best and cheapest cosmetic is plenty of pure red blood coursing through your veins.

### Body Statistics

THE skin contains more than two million openings which are the outlets of an equal number of sweat glands. The human skeleton consists of more than 200 distinct bones. An amount of blood equal to the whole quantity in the body passes through the heart once every minute. The full capacity of the lungs is about 320 cubic inches. About two thirds of a pint of air is inhaled and exhaled at each breath in ordinary respiration. The stomach daily produces nine pounds of gastric juice for the digestion of food; its capacity is about five pints. There are more than 500 separate muscles in the body, with an equal number of nerves and blood vessels. The weight of the heart is from eight to twelve ounces. It beats one hundred thousand times in twenty four hours. Each perspiratory duct is one-fourth of an inch in length, of the whole body a combined length of over nine miles. The average man consumes  $5\frac{1}{2}$  pounds of food and drink daily which amounts to over a ton of solid and lipid nourishment annually. A man breathes about three hundred and seventy-five hogsheads of air every hour of his life.



### Pre-Natal Influence

SCIENTISTS and physicians are unanimous in the conviction that every emotional excitement of the expectant mother is injurious to the developing child, and that the nursing mother influences her baby in similar manner. During pregnancy, as well as during the breast feeding period, the mother must be protected at all hazards against undue excitement, for such disturbances may lead to very serious ills in the child and even prove fatal to it.

Every modern mother must know that she must not nurse her baby while she is angry, excited, nervous or while she is suffering from pain of any sort.

### Cigarettes

TWENTY-three different poisons have been found in certain popular brands of cigarettes. And yet the American women are more and more adopting this pernicious habit. If the mothers of this country become saturated with nicotine and the twenty-two other poisons from cigarette smoking, universal degeneracy will ensue and our civilization will have been given a body blow. Much of crime of our daily life is to be laid at the feet of the manufacturers of these coffin nails.

### Food Values

ONE pound of oatmeal will furnish as much power as two pounds of bread and more than three pounds of lean veal. One pound of butter gives a working force equal to that of nine pounds of potatoes, twelve pounds of milk and more than five pounds of lean beef. One pound of lump sugar is equal in force of two pounds of ham or eight pounds of cabbage. A laboring man of average size requires twenty-three ounces of dry, solid matter daily, one-fifth nitrogenous.

### Mucus

Too much mucus in the blood depresses efficiency both physically and mentally. You may live at half efficiency for years and never realize it. Such a condition brings on premature old age. Also the person afflicted with poisonous matter in the blood stream is subject to severe ills and is ever a prey for the countless malignant germs which are taken into the lungs with each breath. A clean, wholesome blood stream means health—it is health insurance—and it is not difficult to attain.



A reasonable amount of exercise is absolutely necessary as it tends to maintain the protein in the breast milk at a normal level. Any form of outdoor exercise that the mother enjoys is suitable, provided it is not carried to the point of undue fatigue. It is especially desirable that the mother have undisturbed sleep during the night, if conditions warrant. Frequently after the baby is about a month old it is possible to omit the feeding at 2 a.m.

The nursing mother should rest for at least one hour, each afternoon, and should indulge in complete relaxation and rest for a certain period of time after each nursing. The mother who is overworked in the performance of household duties is not likely to receive any benefit while taking outdoor exercise. In these instances, sitting outdoors in a comfortable chair or hammock, motor-ing or boating will prove advantageous.

As much as possible a nursing mother should be relieved of worry, mental strain and undue excitement. The milk of a neurotic woman is believed to contain an excess of protein. If her supply of milk is not sufficient, the baby consequently will always be hungry and fretful, and the mother will get little rest. Her milk supply will not increase under these circumstances. Additional feeding is obviously indicated.

Constipation in the mother should be combatted by dietary measure, abdominal massage, the use of mild laxatives and the proper medical or surgical treatment of any underlying cause. The use of strong purgatives should be avoided, especially saline aperients, because they pass through the milk and may cause diarrhoea in the baby; frequently watery motions are produced that deplete the milk of a great deal of its water content, thus producing a too concentrated milk. It is obviously unnecessary to reflect on the general health of the mother in relation to successful breast feeding. The mother should be temperate in all things.

Carious teeth frequently cause irreparable harm to both mother and nursing baby, and investigations have demonstrated that bad teeth in the mother may retard the baby's growth.

### Care of the Breasts.

Care and cleanliness of the breasts and nipples are highly important. The breasts at no times should be compressed by close fitting dresses or brassieres. If the breasts are extra large and somewhat pendulous, it is a comfort to support them by means of



hammocks. When milk secretion is first established, the breasts may become engorged and painful. This condition of engorgement, or caked breasts, may subsequently occur from time to time. In these instances, the flow of milk may be decreased by wearing a snug fitting breast binder and restricting the drinking of fluids. On certain occasions, gentle massage is helpful ; other times it is necessary to express the milk by hand.

After the exhausting effects of childbirth, both mother and infant should not be disturbed for at least twelve hours, after which the baby is fed every six hours. During the experience of active labour, the mother has expended much energy and perhaps has been subjected to instrumental delivery and an anesthetic. She has little concern with anything but to enjoy surcease from pain and effort. The infant has emerged from an atmosphere of quiet, darkness, even temperature, placental breathing and he needs a period of respite in which to exercise his newly acquired respiratory function and to accustom himself to the changing temperature of noisy world in which he has suddenly been thrust.

### Feeding Schedules

Little colostrum may be obtained at first, but the nursing act will have a tendency to stimulate the flow of milk and will accustom the nursling to suckle. With the beginning of the third day, the infant should nurse both breasts every four hours, convenient hours being 6 a. m., 10 a. m., 2 p. m., 6 p. m., 10 p. m., and 2 a. m.

If a three hour schedule is inaugurated, the hours will be 6 a.m., 9 a. m., 12 noon, 3 p. m., 6 p. m., and every four hours during the night, at 10 p. m. and 2 a. m. It is accepted that an infant will lose weight during the first few days of life and a loss up to 10 percent of the birth weight is called physiologic. It is due to the passage of urine and feces, which is not compensated for by food intake. This loss should be regained between the tenth and fourteenth day. In general, the bigger the baby the greater is the initial loss. This so-called physiologic loss in weight may often be kept low by offering 1 ounce of water after every feeding and between feedings.

Differences of opinion exist among different authorities as to the intervals between feeding, the British physicians adhering to the three hour interval while in America, we generally advocate the four hour interval. The attitude is based



on the ground that long interval allows more leisure for the mother and more time for the breasts to recuperate, with the result that more milk is secreted than following shorter intervals. Also a longer interval allows the infant more time to digest food and to sleep, so that he awakens more vigorous and with a sharper appetite and vomits less frequently.

X-ray examinations have proved that food begins to leave the stomach almost immediately after the beginning of suckling. It has also been shown that the baby receives as much milk in twenty-four hours on a four hour schedule as on a three hour interval. Once the time table has been fixed, it should be adhered to with reasonable punctuality, as irregularity not only upsets the infant's digestion and the mother's convenience but also has a tendency to interfere with the proper secretion of milk.

If baby is asleep at the time for feeding, he must be gently awakened and in this way a habit of awakening at the proper time is formed. Such regularity of habit forms a valuable training for the baby's nervous system. Occasionally, infants who are fed every four hours become hungry at the end of every three or three and a half hours, especially if they are of the active type and if the previous feeding has been a small one. Under these conditions, the baby should not be allowed to cry for a half hour or one hour but should be fed. The following feeding should be at the scheduled hour. As soon as the infant sleeps through the night without awakening and is satisfactorily gaining in weight, the 2 a. m. feeding may be dispensed with. Occasionally after the night feeding has been eliminated, the infant awakens and cries either through force of habit or because of thirst. If he cries from habit, ignore him, for he soon will go to sleep again; if he is thirsty, he is likely to be satisfied with a bottle of water. To be sure, other causes must be sought, such as open diaper pins or wet diapers or bed clothing.

### **Regular Nursing Habits Important.**

On the four hour feeding-schedule, it is usually advantageous for the baby to nurse both breasts at each feeding, for in this way more milk can usually be obtained than with the three hour nursings of alternate breasts. Babies with irregular nursing habits are prone to be fussy and colicky, and the mother who feeds the baby whenever he cries becomes tired and nervous and her milk supply subsequently diminishes.



The length of time that an infant nurses is not a constant factor, it varies with the suckling vigour of the baby as well as with the secretory power of the breast. Under normal conditions, a vigorous infant will obtain more than one half of the milk during the first five minutes of nursing, while little milk is obtained after ten minutes. Small and weak infants obtain milk at a considerably slower rate. A healthy baby nursing both breasts should not nurse longer than ten minutes at each, and an infant nursing at a single breast for no longer than fifteen or twenty minutes. Babies who nurse for longer periods are likely to swallow air instead of milk. This tends to produce vomiting and colic.

When the milk flows too freely, the flow should be regulated by compressing the breast near the nipple, or the nipple should be withdrawn occasionally from the baby's mouth for a few moments. The normal infant requires from two to three ounces of breast milk per day for each pound of body weight so as to supply a sufficient energy ratio. The calculation is based on the assumption that the breast milk is of average quality and contains 20 calories to each ounce. The amount of milk obtained at a single nursing is not uniform and varies from 3 ounces at one feeding to 8 ounces at another. Failure to do well, if properly fed, is more likely to be due to the presence of infections or to congenital anomalies on the part of the infant than to the character of the feeding.

In the technic of breast feeding, the position is of importance and should be one of ease for both mother and baby. During the first two weeks, the mother will necessarily have to lie in recumbent posture, at which time both should lie on the side with the baby's mouth at the level of the nipple. If there is an excess of milk, the baby's mouth should be somewhat above the level of the nipple. After the mother is allowed up and around, it is preferable for her to sit in a low comfortable chair.

The mother should place her index and ring fingers above and below the nipple so as to keep the breast away from the baby's nose. His head should be properly supported in the bend of the mother's arm to prevent its retraction with subsequent interference with swallowing and breathing. X-ray pictures regularly demonstrate in the stomach air, which all babies swallow. In all instances before nursing, the infant should be held upright over the mother's shoulder and patted on the back or gently pressed until the swallowed air



is brought up. In some infants, it is advisable to interrupt the nursing to allow swallowed air to escape.

### Weight Should Treble in Year

A normal breast-fed infant is well nourished ; his flesh is hard and firm, and the skin is soft, pink and elastic ; his eyes are bright and his cheeks and nails pink. When awake he is active and happy, has a good disposition and cries only when there is a reason. He has from two to four stools daily and his temperature, pulse and respiration are normal for his age. He has a normal tolerance for his food, and should gain from 6 to 8 ounces a week during the first six months and from 2 to 4 ounces weekly during the second six months. His weight should treble in a year.

A Healthy breast-fed infant usually sleeps from twenty to twenty-two hours a day during first two months and from sixteen to twenty hours a day during the remainder of the first year. Some babies however, sleep considerably less but thrive in a normal manner. The healthy baby has normal immunity to disease. He should not have frequent colds, bronchitis, boils or skin eruptions. Additional articles of food should be given to the breastfed baby at prescribed periods of time to promote proper growth and development. This is particularly essential in rapidly growing babies, in premature and weak babies, and in certain races. Italians and Negroes are especially susceptible to rickets.

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### THE ORIGIN AND SIGNS OF TUBERCULOSIS

Dr. W. H. HORNIBROOK, F. R. C. S., L. R. C. P., B. P. H.

WRITES IN C. M. G. :—

**Tuberculosis** respects neither age, sex, nor race. From infancy to senility, from the pole to the tropics, in the palace and the hovel its sinister clutch is laid upon those whom it selects to maim or obliterate. It attacks all, or nearly all the human race, but owing to protective agencies in the body it only succeeds in killing one in every seven, but what a vast multitude that one-seventh of civilised humanity represents ! If we lived natural, healthy lives there would be practically no tuberculosis, and this thought points out the means to be adopted in combatting the scourge. Fresh air, sunlight, good food, exercise and avoidance of exhausting labour and mental worry—these are the ideals to strive after, these are the conditions.



which are hostile to the tubercle bacillus, and one may add, to the organisms of all other diseases also. Tuberculosis is not inherited, but a constitutional predisposition is so frequently observed that no skilled eye is required to recognise it; and this constitutional weakness is hereditary.

On the other hand, it is a common experience to find individuals whose appearance gives no hint of vulnerability, and whose family history is without record of disease becoming attacked with tuberculosis when their resistance has been lowered by other causes such as the fatigues and privations of war, poverty, and overcrowding, diseases such as influenza, pleurisy and diabetes, while we often see the career of the alcoholic subject wound up by the same infective agency.

Houses occupied by tuberculous persons sometimes seem to be tenanted by a succession of such, a fact supporting the belief that it may be considered a "house disease." The comparative exemption of the staffs of sanatoria does not negative this, as the general management of patients and the physical conditions in institutions differ widely from those existing in private dwelling houses.

The principal sources of tuberculous infection in man are the expectoration of the consumptive and the milk of infected cows.

The former is the usual cause of the tuberculosis we call phthisis, or consumption, while the latter accounts for probably 50 per cent. of the tuberculous infections occurring in childhood such as gland swellings, bone and joint affections and abdominal and brain disease.

Professor Osler adapted the biblical parable of the sowers to tubercular infection—"*Some seeds fell by the wayside and the fowls of the air came and devoured them up.* These are the bacilli scattered broadcast outside the body, an immense majority of which die. "*Some fell upon stony places.* These are the bacilli that find lodgement in many of us—but nothing comes of it, they wither away 'because they have no root.' "*Some fell among thorns, and the thorns sprang up and choked them.* This represents the cases of tuberculosis in which the seed finds suitable soil and grows, but the conditions are not favourable, as the thorns, representing the protecting force of the body, get the better in



the struggle, *But others fell on good ground and sprang up bore fruit an hundredfold.*

The phthisical subject suffers from cough, and in the acts of coughing and speaking expels particles of infected saliva into the air. The coarser expectoration is at times received into a handkerchief, if it be not dropped upon the ground. In both cases it dries more or less and yields its infective content to the surrounding air, mingling it with the dust which is taken into the lungs of others. Sputum cups of recognised consumptives may possibly give off dried particles from their rims unless unremitting care be taken, a thing difficult of attainment, since familiarity breeds carelessness as well as contempt. As the bacillus can remain quiescent for long periods biding its time, we must always look upon dust as suspect.

In milk, the bacillus finds easy access to the human inside, and it is those very cases where it is not likely to meet with much opposition that it is most frequently presented, viz, the children of the ignorant poor who are bottle fed, and all those unfortunate children who are denied their natural food either through the inability, or more frequently the disinclination, of mothers to fulfil their paramount duty,

Tubercle in milk is derived directly from the cow when the animal is itself infected with the disease. It may be contaminated by the milkers, or others suffering from tuberculous diseases, and in this case it may be mentioned that a tubercular disease occurs on the hands of butchers. Contamination by dust and dirt anywhere between the cow and consumer is possible.

Boiling for some time does destroy the germs, but it also destroys those vital elements upon which the growth and development of the young animal depend, and at the same time the milk becomes more indigestible. Rickets is the lot of the infant fed on sterilised milk, hence the need for a pure article.

The part played by flies as carriers of infection of all kind is beyond the scope of this review, but the danger of tubercular infection of food by them can scarcely be exaggerated.

Some of the other domestic animals are prone to tubercular disease, as well as bovines, and infection may also be carried in hair and fur. Sheep and goats are rarely affected, but different



forms of the disease are comparatively common in pigs. Monkeys in captivity frequently become tuberculous, a fact which should deter their adoption as pets.

As to the methods of infection—the phthisical (consumptive) patient coughs and speaks out his germs as noted above. In this way the air around the sufferer becomes charged with tubercle bacilli which are breathed in by persons in close proximity. Some are lodged in the mouth, some in the nose, some in the tonsils and throat, while others get into the lungs and stomach.

It happens so often that the wonder is that any one escapes and were it not for the protective agencies constantly alert for the attacks of hostile germs and capable of destroying them, life would be impossible. There are some whose defensive apparatus is either naturally faulty or out of gear at the time, and these people afford the necessary hospitality to the microbes. Then we see consumption develop when the microbes get to the lungs, or glandular enlargement in the neck and chest through tonsil infection, the scrofula of a past age, or tuberculous disease of the abdomen or brain when the stomach has received the dose of poison. In these latter cases, the victim is usually young and very young, and the case when the brain is affected hopeless and terrible.

The neglected cold with slight cough which persists, some feeling of want of well-being, a little recurring fever at night and some loss of weight report the successful intrusion of tubercle germs to the lungs. These early symptoms are not to be neglected, time is of great importance and may be the factor which determines the individual's fate.

When glands such as those in the neck are invaded, the swelling and stiffness are soon noticed. Perhaps a bad tooth or an inflamed tonsil is the forerunner. In these cases the practice of painting the swollen area with iodine tincture is to be discouraged, it never did any good to such affections, and served only as a soothing application to the mind of the parent while it left its discoloration on the child's skin.

In cases where the glands are internal, viz., in the chest and the abdomen, they are often the initial stage of general infection. On the other hand, glandular tuberculosis often becomes quiescent, and is said to have cured itself.



In diseases of bone and joint, the starting point is frequently difficult to date. Some times it appears to follow on an injury. Tuberculous disease of the spine or hip may be well developed before attention is drawn to the stiffly held back or the limping gait with its misleading tale of pain in the knee.]

Again, in abdominal affections known to the public as "consumption of bowels," the onset may be very insidious, irregularity of the bowels, some feverish attacks and belly pains may give the picture of an appendicitis. Children infected through milk provide the bulk of these cases.

Tuberculous meningitis is one of the tragedies of early childhood, although adults are not exempt. It selects the little ones from two to five years of age for its ravages and is a deadly disease lasting three or four weeks, sometimes less, and presents a scene of hopeless suffering which haunts the memory by its undeserved cruelty. The infection may be from glands in the chest, or elsewhere, or from disease of the middle ear. Ofttimes it appears without any previous evidence of tuberculous infections.

Should consumptives marry? This is a difficult question, but one gets out of the difficulty at once by saying that no person with active tuberculous disease should marry. Those who have had the disease but who have subsequently gone through two or more years of good health without any relapse may marry so far as their own state is concerned, but they are less likely to beget or bear healthy children than others. It may be laid down that the risk is greater for women than for men.

Prevention is, indeed, better than cure, better inasmuch as it can be employed with much hope, certainty almost, whereas cure is problematical, frequently not even that. The starting point is education of the public in the laws governing health, as without an intelligent interpretation of them frequent transgression is inevitable.

Then follow the reorganisation of the whole housing accommodation of the majority of civilised mankind and the application of measures to control directly the dissemination of infection, such as the prevention of spitting at random; the disinfection and cleansing of houses and rooms occupied by tuberculous subjects; the scientific management and inspection of dairy herds and the



places where milk is handled ; a close supervision of slaughter houses ; and the provision of sanatoria.

In dealing with the methods of cure it is essential to grasp the fact that no medicines have any curative effect, and that we must look to the nutrition and surroundings of the patient as the means of counteracting the disease.

We may summarise the foregoing by stating that amongst civilised men the tubercle bacillus is ubiquitous ; that nearly every one receives bacilli in his body during life ; that one-seventh of the total population succumbs to the disease, whilst a large and unknown percentage has had some kind of infection which generally was cured by Nature's methods ; that as long as human being lives in communities under roofs, tubercular disease will exist ; that the use of cow's milk as a food will always be fraught with danger, unless and until the whole population is educated to appraise the risk at their proper value ; that the nearer to the simple life we attain, the farther off we keep the tubercle bacillus ; that the earlier we recognise the disease the better will be the chances of recovery, and the risk of infection of the community ; that the natural feeding of infants be made compulsory when the mother is able to supply the diet, the shirking of it being treated as criminal and abhorrent to decency ; that segregation of tuberculous subjects be observed in practice as well as advocated in theory, and that such segregation be effected under conditions attractive enough to reconcile the patients to their surroundings.

It cannot be emphasised too strongly that tuberculosis is a preventable disease : indeed it has been described as "the preventable disease par excellence." In view of this fact there is no reason why tuberculosis should not one day become a malady,

### THE AGE-LONG MALADY OF SPEECH.

T. M. KRISHNAMURTHI WRITES IN HEALTH & HYGIENE :

On Stammering. Why, stammerers existed even before the beginning of the Christian era. Moses was a stammerer, and so was Demosthenes, the great orator. Hence, this is an age-long malady of speech.

What is the cause of Stammering ? It is like this : Look at a person who is learning to drive an automobile. He is too conscious of the mechanism and that leads him into trouble. Such is the Stammerer's state.



"An over-active brain, in many cases", says Carl Winkler. The stammerer stammers because he has an unusually quick brain. The victim thinks faster than he can talk and so the confusion results. "The active brain", says Winkler, "is so far ahead in thought, the speech processes cannot keep pace with mental impulses. Therefore, the speech processes in a manner too rapid for the speech equipment to receive them, causes a mental confusion; the mental confusion causes a mental blockade, and the stammer begins."

Stammering and stuttering are real afflictions. And he alone that stammers knows the mental anguish caused by the impediment. The average stammerer is a very intelligent person,—according to 'Winklerian Theory.' Stupid persons rarely stammer. It is usually the unusually intelligent child that stutters. And the adult who stammers or stutters is a bright person, nine times out of ten,—and Mr. Winkler thinks, the average is better than that. So much so, when you deal with a person who stammers or stutters, you are up against some real brains. It is gross fallacy to consider a person with a speech defect to be a 'dumb-bell.' If he were dumb, he would not stammer.

So, we see that stammering and stuttering are mental defects, which can develop some complexes. There is the 'inferiority complex' (the most prevalent), the 'mother-and-father complex', and then the "teacher-and-playmate complex." Usually the speech-defective person is self-conscious, sensitive, impressionable, bashful and nervous.

There are many theories regarding the remedy of this defect. Some have mechanical devices for the mouth. Some stammering Schools teach mind distraction. But Mr. Carl Winkler declares that they can be cured only through mental reeducation. To quote Winkler further, "When a person learns to drive a car, he must first make a conscious effort to learn its mechanism. He becomes conscious of the starter, the clutch, brakes and other parts. Later the operations become auto-matic, and he does not think of them. The stammerer learned incorrectly to operate his voice, and his mental hazards begin. He stuttered on words beginning with B. P. L. M. T. and S. He believed that these sounds were impossible to produce. No one showed him how to pronounce them and so he stumbled on."



To correct this, Mr. Carl Winkler believes the process must be reversed. Each defect must be analysed and the stammerer shown how to make the correction for himself. He wants to know why his lungs lock, if that is the trouble, or why his throat becomes constricted, the tongue stiff, and the lips adhesive. He wants to know, conclusively, why these happen and the method of correction. He must have no doubts in his mind, otherwise there will never be a correction of his speech defect.

### Medical News.

## INDIAN MEDICAL ASSOCIATION.

HEAD OFFICE :

67, DHARMATALA STREET,  
CALCUTTA.

21ST OCTOBER 1932.

Dear Sir,

I have pleasure in informing you that the invitation of the Lucknow Medical Association to hold the next IX All-India Medical Conference has been accepted and the Conference will be held at Lucknow during the Christmas week, the exact dates of the Conference will be announced later on. I have been authorised to extend the invitation on behalf of the Reception Committee formed at Lucknow to all the members of your Association and also through you to all the medical practitioners in your parts. Rai Bahadur Dr. B. N. Vyas of Lucknow has been elected Chairman of the Reception Committee. Major M. G. Naidu has been nominated President of the Association for the ensuing year.

In order to make the Conference at Lucknow thoroughly representative of the medical profession of India, as in the case of the previous conferences, it is necessary that the co-operation of the members of the various associations should be freely given to our Lucknow colleagues in the successful organisation of the Conference. As on previous occasions this Conference will consider many important problems affecting the vital interests of the medical profession of India and notably the *Indian Medical Council Bill*.

There will also be a *Scientific Section* where scientific papers and discussion on interesting case notes will take place. Our Lucknow friends count on the help received from the members of the different associations in this matter, and I hope that those members who are desirous of taking part in the Scientific Section should be requested to send a synopsis of the paper



which they intend to read either to the undersigned at the above address or to the Secretary, Reception Committee, IX All-India Medical Conference, Lucknow, by the 15th of November. It should be noted that the paper read at the Scientific Section of the Conference will be published in the official journal of the Indian Medical Association and cannot be published in any other paper without the sanction of the Journal Committee.

Owing to shortness of time it has not been possible to extend the invitation individually to members of the profession all over India. I am, therefore, approaching you for help in this connection and shall be obliged if you could give as much publicity regarding this Conference as possible through your local papers or otherwise, so that a large number of delegates may attend the Conference to guide its deliberations and take part in the Scientific Section. The Delegation Fee has been fixed at Rs. 5/-.

The Reception Committee are making every effort to provide accommodation for the intending delegates in a suitable Bungalow at Lucknow and only the actual boarding expenses will be charged. Delegates who intend to attend the Conference are requested to communicate with Dr. T. R. Swarup, Secretary, Lucknow, Medical Association, Lall Bagh Circus, Lucknow, for accommodation, etc. Further particulars will be supplied on request by the Reception Committee.

It is anticipated that the consideration of the Indian Medical Council Bill, which has been introduced at the Legislative Assembly and referred to a Select Committee, will not be taken up at the special session at Delhi in November. It would therefore be all the more essential that the Lucknow Conference should pass resolutions regarding this Bill supporting the demands of the Indian Medical Association on the different clauses of the Bill and it would therefore be desirable that the Lucknow Conference should be attended by as many delegates as possible from the different provinces of India. It is hardly necessary for me to dilate on the importance of the Conference which, besides focussing the attention on all the important problems concerning the welfare of the medical profession, affords an excellent opportunity of social intercourse between the different members of the medical profession in India.

*Yours faithfully,*

K. S. RAY,

Jt. Hon. Secretary,

INDIAN MEDICAL ASSOCIATION.



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[No. 5.]

## All India Medical Conferences.

Next month during the Christmas holidays two conferences of All India importance will meet, one the annual gathering of the Licentiates in India, the other a gathering of the medical profession as a whole of all grades both in service and outside. The former meets in Madras and the latter at Lucknow. There are only two medical Associations in this country which could be said to be representing All India interests in their activities. The older of the two which celebrated the Silver Jubilee at Darbhanga last year, is the Association of the Licentiates, a registered association which admits only Medical Licentiates. This was originally started solely for the purpose of redressing the grievances in service of the Hospital-Assistants now called the Sub-Assistant Surgeons but the rules of the Association permitted the admission of the practitioners holding the Hospital-Assistant Diploma. Naturally the destinies of the Association were guided solely by the Licentiates in service, though it has to be said that Licentiates in private practice did not grudge to render any service to the Association. The activities of the All India Medical Licentiates' Association were in direct proportion to the quantity of their grievances in service, some of which have been got over by persistent agitation conducted by the Association. It looks as if there was lull in the activities of the Association. The Indian Medical Council Bill and the long standing grievance of the Licentiates regarding their Medical Education and such items affecting the life and prosperity and even the very existence of the Licentiates



have been fortunately rekindling the activities of the Association and it is really a sign of the times that the Licentiates in private practice have been bestirring themselves for about a year to utilise the Association for various purposes affecting the interest of the Licentiates and the Madras Licentiates have invited the Annual Conference at Madras.

It is said that the wheels of the Association are not working smoothly, not so much for want of oil or fuel but perhaps due to abundance of them. We hope that the Licentiates from all provinces of India will muster strong at the conference and act in a way beneficial to the cause for which the conference will be held. The Indian Medical Council Bill is still on its anvil and the latest news published in the press makes it clear that the Government of India is adamant and do not wish to swerve an inch from the path they chalked out while introducing the Bill in the Legislative Assembly. It is made plain that the Licentiates cannot find a place in the proposed Council till their educational standard is increased and that the Government cannot at present think of any reform in the Medical Education of the Licentiates on account of economic depression. They have made their betrayal more patent by reiterating that the purpose of the Bill is to get the University degree recognised by the British General Medical Council or in other words placate the G. M. C. The provincial councils have not been functioning satisfactorily and the Licentiates have not been allowed to enjoy the rights and privileges of registration equally with the other practitioners in the Register, especially with regard to the appointments under the Government—paid or honorary. The Provincial Medical Acts, instead of levelling up the profession, have so far been causing greater cleavage in the profession. The non-recognition of the Licentiates as Medical Examiners for the Insurance companies in India is another blot on



the Licentiates as general practitioners. The invidious distinction made between the Licentiates and the Graduates for School Medical Service is yet another grievance specially affecting this class. There are many other grievances which should find a solution in a gathering of all India importance. Last but not least importance is the question of Medical Education for the Licentiates. It is really a huge question the solution of which requires the serious attention of not only the Licentiates but of the profession as a whole. There is a splendid opportunity for the Licentiates of all Provinces to make a common cause of it to compare and contrast their hardships both in service and private practice and bring about a solution of their grievances by an all India agitation, to do which, the All India Annual Conference that meets at Madras should be made use of, both in individual interest as well as of the class as a whole. We learn that the Reception Committee have made it possible for the Licentiates, who are not members of the All India Medical Licentiates' Association, to take part in the discussion of the topics concerning the Licentiates' class. It is hoped that the Licentiates of Madras Presidency will rise to the occasion and will take advantage of this gathering and make it a success.

The task of the Indian Medical Association at the All India Conference at Lucknow is certainly not less onerous. Though only four years old as a registered body, the Association has made itself felt by the authorities. Being a non-sectarian Association absorbing in it all the qualified practitioners in the country, the activities of this Association have to be certainly more exacting as they have not only to look to the interests of the profession as a whole but also to the individual grievances of several grades that now exist in this country by virtue of different qualifications as well as different grades in service, all such differences now working as water-tight



barriers preventing the growth of the medical profession as one homogenous entity. The first and foremost problem which should draw the attention of the Indian Medical Association should be the abolition of the castes in the profession. As in politics so also in the medical profession, recognition of castes has been a great handicap against reforms. The Associon has theoretically acknowledged equality of status of practitioners of different qualifications but unless this principle is practically carried out in actual working there is likely to be dissensions in the Association sooner or later and the very purpose for which this Association has come into existence will be frustrated.

The existence of paid service in this country has greatly hampered the growth of the independent medical profession. In addition to the rights and privileges enjoyed by those in service, they have special facilities for private practice, being in charge of Government institutions ; consequently statepaid doctors are having unequal and unwholesome competition with the private practitioners with the result that the latter are greatly handicapped. Apart from the unfair competition referred to above, some of the state-paid practitioners have been abusing the privileges of private practice enjoyed by them and are running regular business as Chemists, conducting laboratories and even Nursing Homes. Such a development, if not checked at once, is likely to spread and hamper the growth of the independent medical profession.

Rural medical Relief, which is one of the most essential items in village reconstruction, should engage the serious consideration of a gathering of the importance of one that meets at Lucknow. This is an all India problem which should find a solution at the hands of the leaders of the profession. Such and similar subjects which affect the life and prosperity of the rank and file in the profession should be first tackled by the All India Association with



the idea of bringing about an uniformity in the working of such schemes throughout India. At present, the so-called subsidised rural medical relief scheme is nothing short of indentured labour and the local bodies, who are entrusted with this scheme, run it as if the subsidised practitioners are menials employed under them, the monthly subsidy of Rs. 45 to 50 being reckoned as pay. For paid medical service, the rural area should have certainly the preference. Medical practitioners do not usually settle in villages for private practice as they cannot command practice enough for a bare living. In cities and important towns private practitioners have now settled in large numbers and medical relief may be safely entrusted to them. An organisation of paid medical service should be immediately started in rural areas with adequate pay to the practitioners. Money should be saved by entrusting the work in state hospitals in cities and towns to honoraries from amongst the members of the Independent Medical Profession.

All the agitation should first be directed for the amelioration of the lot of the members of the profession, finding out ways and means by which the practitioners can practise unhampered and be useful members for serving the public. The profession cannot be said to be overcrowded. For want of proper organisation to guard the interests of the members of the profession, especially those in the rank and file, the medical profession is suffering from want of work. The elders in the profession work from the top instead of from the bottom. Their eyes are on the plums of office which are always at the top. The existing services have made these plums most attractive. This is why the energies of our leaders are concentrated to get these plums for the sons and daughters of the soil. We appeal to the leaders who meet at Lucknow that they should start agitation in right earnest of All India nature and get equal rights and privileges for all the members of the profession so



that no invidious distinction is made between the state-paid doctor and a private practitioner or between two private practitioners of different qualifications in exercising the rights and privileges which are conferred on the qualified practitioners by virtue of registration. Regarding the displacing of the I. M. S. and other details of getting medial swaraj—so to say—the cries of the profession will be in wilderness until and unless India gets political freedom.

Before closing, we wish to refer to the Indian Medical Council Bill which is still on the anvil of the Legislative Assembly. This is the third time an All India gathering having an opportunity of discussing the Bill. As referred to above, the Government of India do not seem to have taken any notice of the agitation regarding this Bill and we trust that suitable arrangements will be made by the Indian Medical Association to canvass the support of the members of the Assembly to their side so that the Bill is thrown out entirely to be reconsidered by the members of medical profession and not by others who are innocent of everything medical.

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### RURAL PRACTITIONERS TO MEET.

Dr. S. Ramasubbu, L.M. and S., Secretary, Madras Provincial Rural Medical Practitioners' Association, Viragnur, Salem Dt., wishes us to announce that there is a desire amongst many rural practitioners to hold an annual conference in Madras during the Christmas week and such of those practitioners who agree to this proposal are requested to intimate to the Secretary suggesting also the name of the President for the conference. Majority of the rural practitioners being Licentiates, it will be quite possible to hold this conference in the same place as the All India Medical Licentiates' Conference and in case the rural practitioners have no objection for this arrangement, they may intimate to Dr. V. Rama Kamath, Publicity and General Secretary, 25th All India Medical Licentiates' Conference, Madras for making suitable accommodation for the delegates along with the delegates of the All India Medical Licentiates' Conference.



## Original Articles

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### SOME NOTES

ON

### THE STUDY OF EUGENICS IN BENGAL.

BY

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*Calcutta.*

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Eugenics has been defined as the study of the methods by which the race may be improved both physically and mentally. It has been said that "To produce exceptionally gifted men, in both body and mind, those with high development of the characters desired should be encouraged to marry, and that to prevent the production of the weak and feeble-minded, the only method is to prevent such from having offspring. It is admitted that at present these things hardly come within practical politics." But there is little doubt that the "nation which first finds a way to make them practical will in a very short time be the leaders of the world." (*Heredity*.—L. Doncaster M.A., P. 51).

In Bengal an experiment was tried to bring these things within the practical politics. The experiment is still in operation, and has produced results which require a scientific investigation. This experiment is the institution of Kulinism, a much abused system, which has been held responsible for many social evils and customs. To discuss it, I must first give a short history of the Institution.

In Bengal, the two principal upper castes are the Brahmins and Kayasthas. The Brahmins are subdivided into (1) the Rarhis, (2) the Vaidics and (3) the Varendras. The Vaidics are divided into (1) the Western and (2) the Southern, the latter came from Southern India and the former from Western India. King Adisur of Bengal brought from Kanauj five learned Brahmin priests who were accompanied by five Kayasthas to perform a *Jajna* (sacrifice). They settled in Rarh (west of the Ganges) and were therefore called Rarhi Brahmins and Daksin Rarhi



Kayasthas. But some of the Kayasthas settled in the country lying to the east of the old Ganges (Bhagirathi and Hooghly) and west of the Bramhaputra. These are called Bangaja kayasthas. Ballal Sen, successor of Adisur, divided the Rahri Brahmins into (1) Kulins, and (2) Non-Kulins. The latter are divided into several classes such as Srotriya and Bangshaja. The Kulins can marry a kulin or a srotriya girl but never a Bangshaja girl.

The Kulins will not interdine with the Bangsajas and heavy dowries are given to the bridegroom's parents for inducing them to give their sons in marriage with the daughters of the Bangshajas. The kulins are divided into several 'Melas'. 'Debibar Ghatak,' a great family geneologist, framed very strict rules regarding a marriage of Brahmins which are still followed. The Bangshajas had to pay a heavy '*Pana*' or bonus to the father of the bride to marry her. The kulin Brahmins by marrying a Bangshaja girl becomes a 'Bhanga' or 'broken.' Ballal Sen did nothing for the Vaidics and no Debibar Ghatak appeared amongst them. The marriage rules are comparatively lax amongst them as regards the ages of the bride and bridegroom. Ballal Sen divided Kayasthas into (1) Kulins and (2) Non-Kulins and the latter are called Maulics in West Bengal and Bangals in East Bengal. The five kayasthas who accompanied the five Brahmins were made Kulins but one of them was degraded from kulinism and became maulic. Ghose, Bose and Mitras are kulins; Dey, Duttas are maulics. Besides the Dakhin Rarhis and the Bangaja kayasthas, there are Uttar Rarhi and the Varendra kayasthas. Their origin is obscure and there is no Ballali system among them.

Kulinism, originally introduced among the Brahmins and the Kayasthas, has permeated all branch of society in Bengal. The Brahmins permanently lose their 'Kul' by marrying a girl of an inferior rank and this custom is peculiar only to them.

Marriage cannot take place between members of the same *Gotra* (Class). A Mukerjee can marry a Benerjee girl and vice versa. A further distinction has been introduced in tracing the geneology of the parties (*Palti*). When a Kulin has become a Bhanga, a Mukerjee girl, a descendant of Rameswar Takhore, can only be given in marriage to a Bamerjee bridegroom belonging to Rudraram, Keshab, Raghuram, and Rameswar



Chakraverti. Both the bride and bridegroom must be in equal number of descent in geneological tree.

Thus Rameswara 4th can only marry with Rudrarama 4th in descent (*Purusha*).

The essential characteristic of a Kulin is the possession of nine qualities :—

*"Acaro Vinaya Vidya Pratistha Tirthadarsanam.*

*Nistha Abritti Stapo Danam Navadha Kula Lakhanam."*

These are all highly developed mental qualities.

Exceptional mental qualities are inherited. That this is true has been shown by Galton and by Pearson. Mental and moral attributes, like bodily characters, are essentially determined by the hereditary endowment received from the parents. The mother's influence on the child is closely similar to that of the father.

There are families in Bengal in which a judicious marriage added great mental vigour to an already sturdy stock.

A mother coming from a gifted family will bequeath a full share of her own family's intellectual wealth to her sons and grandsons. The son endowed with the gift of birth and brain would be fortunate enough to be born and live in circumstances of ease and comfort. The object was to produce a rising generation of alert mind and robust body, and to eliminate physically and mentally handicapped children brought about by the influence of hereditary diseases. The chief defect of the system is that only mental qualities have been thought important in racial culture; the physical vigour, strength, manliness heroism etc. have been left out of consideration. The result is the production of the highly cultured but timid Bengali Mukerjee, Banerjee, Chatterjee, etc.

*Mate-election.*—As regards mate-election, the Khatriya had the ceremony exclusively for the girls of the respectable family. But as a general rule, the girls had little choice in the matter, but the guardians were particular about the marriage of their girls. The girl is to remain unmarried if suitable bridegroom is not forth-coming.

*The position of women.*—There was more freedom in ancient India, at least the women were in better state of health. In religious places and in festivals they still enjoy an amount of



freedom which is really surprising. Any foreigner would find them in number in Kalighat, where they go to see Mother Kali. There they move about quite freely, quite unconcerned with the notices and staring looks of unknown men. Marketing is fashionable there and they buy toys for their children from shop-keepers, and their relatives stand at a distance. In villages, they enjoy more freedom and even they bathe at the same bathing *ghat* with men. They change their clothes so dexterously *that* no one can complain of any indecorum or indecency. Many accompany to the temples with men and perform their pujas with devotion.

*Sex Knowledge.*—Sex knowledge was imparted to the girl in the ceremony of *Punar Bibaha* (Second marriage as it is called). The songs sung in the ceremony are no doubt obscene, in the sense that all sex language is to the public. The elderly ladies show by symbolical representation and by songs and speeches what the girl novitiate is expected to know about sex-knowledge. The much-needed guidance and wise maternal advice, so essential to her life, are thus communicated indirectly to her, amid rejoicings, in which her friends and relatives join wholeheartedly and publicly. The physiological monthly function, the new event in her life, becomes something of which she is not ashamed, and is not regarded as an unavoidable nuisance as is generally considered by her Western sisters.

The pictorial representations in the Puri temple show the sexual technique. It shows that these pictures are not obscene in the modern sense of the term. They have an educative value and claim to be considered as sacred as they occur in the walls of the temple of Jagannath—the God of the Universe.

*Birth Control.*—Hinduism is not opposed to birth-control. Wife is certainly necessary to a devout Hindu for three purposes.

- (1) As a partner in the performance of religious ceremony (*Dharma*).
- (2) As a matron of the house, to manage its affairs, to help in the adjustment of income and expenditure and thus to accumulate a reserve fund for future use. (*Artha*).
- (3) For the purpose of having offspring. (*Kama*).

*Parinetu prasutaye.*—Raghu I-25.

*Prajaai Griha* (२४) *Medhinam*—Raghu I-25.



To beget children is considered a virtue which saves a man from the torture of the hell called Put.

*Putrarthē Kriyate bhārya putrahpinda prayojanat.*

But here the begetting of the child does not depend upon the carnal desire of the husband. Procreation of an offspring was used to be considered as a sacred act for which special preparation was necessary both for the husband and the wife. The progeny must be pure from their birth (*Ajanmasudha*).

*Yathakramah pumsavanadikakriya dhrtesca Dhira  
Sadrsirvyadhatta sah.*

Preparation of the couple for successful impregnation and the observance of the Garbhadhan ceremony has been described in detail in my book *Midwifery of the Ancient Hindus*.

Bramhacharya is to be observed by both the husband and wife for at least a month previous to intercourse. The forbidden three days of menstruation are observed as a rule. In the *Mahavarata Vanaparba* we find the following sloka.—

*Apatyot padanarthantca tivram niyamasrita.  
Kale niyamitaharo bramhacari jitendriya.*

It means that before the birth of Savitri her father 'observed very strict rules for begetting a child. He used to take his food regularly and in measured quantity and became a Bramhacari (i.e. observed the rules of a celibate life) and thus conquered his organs of desire.' Such a father can only beget a daughter so pious as Savitri.

Every Hindu likes to have a male child and he is very glad when he gets his first son. When the ceremony of Garbhadhan is performed, the image of a boy is made with pounded rice and water and is thrown from his wife's navel on the ground through the inside of her cloth. This is symbolic of her giving birth to a male child. Birth of a female child they generally disliked. In ancient times all females were excluded from inheritance. In Bengal only, Jimutabahana codified that the wife would succeed to her husband if he dies sonless.

The Hindu ladies themselves did not like repeated pregnancy, specially after births of consecutive females. They often give queer names to their offsprings such as.—

*Ar-na-Kali* = No more, O'Goddess Kali

*Ksanta Kali* = Stop, O'Goddess Kali

*Raksa Kali* = Save me, O'Goddess Kali



A Bengali ballad is often repeated by the Bengali Mothers—

Ātasi, Patasi, tanta, tarasi

O Baba, ar na,

O Ma, ar na.

Ar na, ar na kare gelam Kasi

Sekhane halo Sarbanasi

Ar na, ar na kare gelam Gaya

Sakhane halo Sarvajaya

Ar na, ar na kare gelam ghar

Sekhane halo Sristidhar.

Atasi, Patasi, Tanta, Tarasi are four daughters born.

O Father no more,

O Mother no more,

No more, no more, I fled to Benares,

There was born a daughter, Sarbanasi, (destroyer of all).

No more, no more, I fled to Gaya

There was born Sarvajaya (conqueror of all).

No more, no more, I came back home

There was born a son Sristidhar (supporter of all).

In Sanskrit medical books and the sastras, it is recommended that even days should be selected for the procreation of a male child. Consequently the wives often try to elude the embraces of their husbands in the odd days after menstruation (purificatory bath). Thus the 5th, 7th, 9th, 11th, and 13th days are generally avoided by them. Sexual intercourse from the 13th day onward is said to be unwise and is forbidden. The fruitful period is considered to last 16 days from the beginning of the monthly flux. Thus the available days are the 4th (to be avoided according to Markandya), 6th, 8th, 10th and 12th. Again co-habitation is forbidden in the following lunar days—

(1) Astami (the eighth lunar day).

(2) Amabasya (the day of new moon).

(3) Purnima (the day of full moon).

and also in

(4) Chaturdashi (the 14th lunar day)

(5) The night previous to the performance of a *śradh* ceremony.

(6) Days of Eclipse

(7) If any of the couple is unwell or sick.

(8) Pregnancy



The observance of a pious Hindu to refrain from sexual intercourse according to lunar days as recorded in the almanac has formed the subject of a satire in the works of the Bengali Poets. In Bharat Chandra's work the women when they meet at the bathing ghat are represented as vilifying their husbands for various reasons. One at least accused him for not visiting her regularly but exceptionally when the stars are favourable for the act. In the religious books we find—

Never co-habit with a woman who is unwell or sick or unwilling or unclean or dressed in dirty clothes or pregnant—V. P. 3 11, 111.

or who does not love you or who loves another man or who is hungry or whose stomach is too full. A man in similar circumstances must not also enjoy marital embrace with a woman—V. P. 3 11, 112.

Nasnatani striyani gacchennaturani na rajasvalani  
Nanisthani na prakupitani naprasastani nagarbhini  
Nadaksinani nanyuakamni nakamani nanyayositani  
Ksutksamamatibhuktani va svyanancaibhirgunairyutah,

*Visnu Purana*, 3, 11, 111 & 112,

The period of rest recommended for a woman after child birth has been declared by Susruta to be six months. In fact, women wish to be delivered in their father's house and her husband used to refrain from visiting her until her child was six months old, when the ceremony of feeding the baby with rice (*Anna-prasana*) is celebrated.

The Hindus however refrain from the use of any mechanical device, the contraceptive means advocated now a days, and tried to stop unnecessary children through religious observances and customs.

It is well known that the period of pregnancy recurs after regular intervals. Their children are born after a period of 2, or 3 years. Intercourse during this interval does not result in fecundation. This fact I have observed in well authenticated cases many times, and I was thus led to the conclusion, which was more fully confirmed subsequently by observations which required my greatest care and attention. To make this experiment, I had to request some of my friends to try it in their own cases and I was always satisfied with the result. In a few cases, two consecutive births occurred exactly on the same date of the year



after an interval of 2 years and a half from the date of birth of the previous child. The question now arises whether the conclusion based on such a limited range of enquiry can be stated as a general law without further evidence adduced by independent observers.

But so far I am certain that if we divide the year in two periods of six months each, most of the pregnancies often would fall in the particular six-monthly period of the year. Thus, if a woman gives birth to a son in January, her other children most probably would be born in the period from January to June, and nearer to January than to June. The chance of conception would be delayed, if her proper period is missed.

Another step taken by the Hindu ladies to avoid repeated pregnancies is to occupy separate beds, if not separate rooms. After the first child is born, the husband and wife generally occupy different beds and when mother of 3 or more children, separate rooms, if possible.

*Caste System.*—The formation of caste had its origin from division of labour and was undoubtedly in its original state a Eugenic measure of real service to the community. There was no hatred in the minds of the members of the superior class as it is now called. Every one was a component part of a complete society and the idea of the superiority or inferiority complex was of later growth. As boys, we had no idea of hatred against inferior caste people in our mind. The term depressed class was unknown. In the Puja, they used to take part in the ceremony and were regularly fed in our houses. In our family, the servants were never called by names, some relationship was soon established. I remember my Jadudada (elder brother), Kautuk dada, and Ram dada, who were our servants. Rasick khuro (uncle) a barbar, gowala masi (milk supplier aunt); the Dhai Ma, a hadi by caste (midwife); the real mother has to buy her baby from her by paying her the price of the child.



## LET US HAVE ACCESS TO SUN RAYS

BY

DR. ARNE LAURIE SUOMINEN.

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The marvelous healing qualities of sun rays and their wonderful life-generating powers were first demonstrated to me when I was but nine years of age. My older brother who was consumptive had been advised to take sun and air baths and Kuhne methods by a concert organist who had become acquainted with the sunbathers in Germany. My own physical condition at that time was poor, there being symptoms of anemia and rickets. I followed my brother in his sunbathing expeditions and our health was very much improved by the end of the summer.

In American cities the great difficulty encountered is obtaining the necessary space and freedom needed for this purpose. Boston, Massachusetts, however, has been far ahead of the other cities as sunbathing and nude swimming has been permitted in the municipally maintained "City Point" bathing beach for about twenty years. The sexes of course are segregated by a high stockade, same as suggested in the recent plan by Chicago sunbathers, the main idea being to derive benefits from the actinic rays of the sun and the effects of the air baths.

If the taxpayers were to realize the amount of money that could be saved by the municipality in hospital and sanitarium maintenance by popularizing sunbathing and thereby preventing susceptibility to tuberculosis etc., the idea would go over with a "bang." The main barrier in this realization has been the conservative and orthodox attitude of the health authorities against anything natural, but the public is now turning towards other sources for reliable health information.

There have been several attempts to get recognition for sunbathers in Chicago, one in 1927 and some earlier. Last spring, the various groups and their representatives approached me with a plan to erect and to maintain solariums or fenced enclosures, one for men and another for women. Sufficient funds were pledged for the erection and upkeep, and an admission fee was to be charged to keep the undesirable element out. The hopes of the 20,000 sunbathing enthusiasts were high as a resolution of our plan was presented to the city council. While the council



committee on parks, playgrounds, and beaches was pondering the question, the ambitious politicians of that neighborhood attempted to capture support for them in the coming elections by manufacturing unfavorable propaganda against our sunbathing plan. The prejudiced newspaper articles call on the people of Rogers Park to oppose these "morons" and "degenerate cults who would divest themselves of their clothing" and expose such a disgraceful thing as a human body. Our mayor, who himself has had personal experience with nature's curative powers, came to our defense and denounced those who made a political football out of our plan to further physical standards and to prevent susceptibility to such diseases as tuberculosis, rickets anemia, etc. in our community.

The scientific nature of our sunbathing plan was given wide publicity in the daily papers and the opponents of the idea were badly beaten in the recent elections. As Rogers Park, the location of our original plan, is not centrally situated, the project was changed to include also the bathing beaches under the Lincoln Park Commissioners which are more accessible to the masses of the west and south side residents. Our first offensive for sunbathing privileges accelerated much favorable sentiment for our movement and our numbers have doubled during the last two months. We now have 40,000 names on our petitions "to have proper solariums erected at the municipal and Lincoln Park bathing beaches for bettering physical standards and for preventing tuberculosis, anemia, etc. by scientific sunbathing" and we are giving out 50 more petitions every week.

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### ALL INDIA CONFERENCE.

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Let us draw the attention of our readers to a communication appearing in our last issue by Dr. K. S. Ray, Jr. Secretary, Indian Medical Association regarding the All Indian Medical Conference which will be held this year at Lucknow. The Indian Medical Association is the only representative medical fraternity now existing in this country which admits qualified practitioners of all grades and classes, both in service and outside, and so we need hardly impress on the profession in India that it is their sacred duty to attend this conference in large numbers and make it a success.



# ATISARA

## OR

## DYSENTERY

BY

KAVIRAJ A. C. KAVIRATNA

*Calcutta.*

—:0:—

Atisara is too well known a disease in the tropical and sub-tropical countries and hardly requires special introduction. There are two types of Atisara commonly found in the country. One is called Raktatisara and the other is known as Kaphatisara.

Raktatisar and Kaphatisar resemble the symptoms manifested in Amoebic and Bacillary Dysentery respectively.

In Atisara, Vayu becomes deranged disturbing the equanimity of Pitta and Kapha due to irregular and injudicious intake of food or drink and produces irritation in the mucous membrane of the system resulting in ulceration and Kapha (mucus) is driven down the intestines giving rise to constant urging to stool with slimy mucous discharges or bloody mucous discharges. Here Ayurveda attributes the cause to disintegration of Dosha Traya viz. Vayu, Pitta and Kapha while the modern system of treatment attributes the cause to the infective bacilli.

Atisara has been classified into six groups in Ayurveda, viz. (1) Kaphaja, (2) Pittaja, (3) Bataja, (4) Raktaja, (5) Amaja (6) Sannipataja.

In Bataja type, faeces is expelled with pain and tenesmus while the Pittaja type is attended with burning sensation and in Kaphaja and Raktaja types, it is attended with discharges of mucus and blood respectively with the concomittant symptoms described above.

विष्टम्बे गुल्माध्माणां विविधा वात वेदना

मल बाह्यः प्रवृत्तिश्च क्षुब्धो मोहश्च तपोहनम् ।

In sannipataja Atisara, all the fatal symptoms are marked with discouraging prognosis on account of the derangement of Vata, Pitta and Kapha in combination. Patient would threaten danger at any moment during the course of the disease.



In Raktatisara, chief manifestations are frequent urging to stool attended with tenesmus and acute pain due to ulceration in the Colon. The disease is infectious and is caused by derangement of Vayu or Pitta or in combination of both Vayu and Pitta. Allopathic System of treatment says that the disease is caused by invasion of *Entamoeba Histolytica*.

In Kaphatisara, chief manifestations are tenesmus and pain attended with frequent discharges of blood and mucus. Postmortem examination reveals that large and, not infrequently, small intestines are ulcerated. The disease is caused by derangement of Kapha and Pitta or in combination of both the Doshas. The modern Allopathic System observes that the disease is resultant of invasion of Dysentery Bacilli known as Shiga's or Flexner's Bacillus, etc.

Statistics show that the mortality from Atisar (Dysentery) is 10.5% which is undoubtedly a very high figure and needs proper attention of medical profession.

Raktatisara is endemic in character and does not break out in epidemic form. The human system becomes deranged after the injudicious intake of food or drink and allows the foreign body to grow which is the so called infective Bacilli detected actually after the disease has developed to the extent of being examined under microscope. According to the modern system of treatment, the Bacilli often travel down through the Stomach Duodenum to the submucous coat of the Colon which is their seat in the human system. On their arrival at the destination, they thrive and form bottle neck shaped ulcers giving rise to griping and acute cutting pains attended with other complications. Thus it is rather a disease of sub-mucous coat. Allopathically, microscopical examination of stool is essentially necessary in diagnosing the disease and it should be done where such examination is possible without any hesitation and loss of time. But in villages and mofussil towns, there hardly exists any clinic and the examination of the stool is therefore naturally impracticable and the diagnosis is generally defective in the absence of a report on the examination of the stool and methodical treatment would under such circumstances be simply discouraging. But this could ably be diagnosed by Ayurvedists without such clinical tests depending upon the knowledge of perception of Pulse from *Tridosha* point of view and marking the character of stool and pains and treatment is always undertaken with commendable success.



In fully developed acute cases, there is blood and mucus or bloody mucus and faecal matter intimately mixed with the other. The colour of the blood is dark brown or tarry, reaction acid, smell often offensive. Microscopical examination reveals appearance of mobile *Entamoeba Histolytica* with ingested Red Blood Corpuscles.

There is rise of temperature which generally varies between 101° to 103° F. If the disease is neglected, gangrene sets in and the copious hæmorrhage and rapid emaciation are not very infrequent which may cause death in course of a week. The extensive gangrene may paralyze the movement of bowels resulting in constipation.

In a milder attack, in a few days time, patient appears improving but if it is not energetically treated the attack recurs within a varying duration and the disease becomes chronic.

Kaphatisara breaks out sporadically and at times epidemically in a confined locality. The presence of Shiga's or Flexner's *Bacillus* in the stool is characteristic according to the modern system of treatment.

The disease generally affects mucous membrane of large intestines and sometimes small intestines, rapidly producing œdema and finally necrosis, due to derangement of Vayu, Pitta and Kapha and it is called Sannipatatisara.

The period of incubation is rather short which hardly exceeds 48 hours. Onset is sudden with severe abdominal pain and frequent call to stool followed by mucous discharges which soon become bloody. The pulse is rapid, small, and feeble. Temperature rises up to 104°F. In severe types, patient becomes delirious. There are five Sub-divisions of Kaphatisar, viz : (a) Amaja (mild type), (b) Pittaja (Fulminating type), (c) Kaphaja (Gangrenous type), (d) Raktaja (chronic type), (e) Sannipataja (choleric type).

Mild type is less serious than others. In fulminating and Gangrenous types, patients suddenly sink. Physicians should take particular care of the heart.

In chronic type, the disease runs the course of several months or years, ultimately leading to intestinal tuberculosis.

In choleric type, symptoms resemble those of cholera, viz.: vomiting, muscular cramp, broken voice, collapse and suppression of urine, etc.

Accessory Treatment :—Absolute rest in bed is of vital importance during the course of the disease. Walking and physical movement not infrequently cause disaster converting curable acute forms of



dysentery to the chronic form which is rather difficult to treat. The patient should be kept in well ventilated room and instructed to remain in recumbent or horizontal position and in perfect rest. Warm application on bowels and abdomen and fomentation of turpentine stupes should be insisted upon which would relieve the patient of griping pains about the navel. The diet should be of the plainest nature in liquid form without any solid material. Barley (well boiled) water, Shothi, gruel of Chira (chra should be nicely washed at least seven times in water or better in hot water, then the same should be strained through a linen for use), Curd whey (ghole) and milk whey (Chhanarjal) are good diet. Prosarani (Gandhal) leaves decoction is highly useful in Dysentery and its use should not be overlooked. It is soothing and nutritive. Plasmon Arrawroot and Shothi (prepared like Barley) may be given. Bael rind decoction (dried bael) with barley water may be used with advantage.

In my practice, I successfully treated quite a large number of cases of Raktatisara and Kaphatisara with the following combinations administered with some other indicated Sastrie Medicines :—

(a) Purgatives of Eranda Oil (Castor Oil) at the onset of the disease is advisable.

(b) Bael sunth (Bael Rind).

Old Treacle.

Lodh.

Til Taila.

Morich (Black Pepper).

Take equal parts of the above, crush these into paste.

To be licked up 15 to 20 grains twice daily.

(c) Tamarind Root, of Small Tree ... 24 grains.  
Whey ... .. 4 oz.

Beat these into paste and mix together. To be administered  $\frac{3}{4}$  times a day.

(d) Amrul Leaf Juice (Rumex Scutatus) ... 2 Tolas.  
Twice daily.

(e) Tamarind leaves of small plant ...  $\frac{1}{2}$  seer.  
Water ... ..  $\frac{1}{2}$  "

Boil it down to half the quantity, divide it into 4 doses and administer every four hours.



(f) White Dhuna (Sodhita)

gr. VI.

Cane Sugar

" "

Mft. pulv., send 2 such to be taken every six hours.

This would reduce the number of stool.

(g) Kurehi Bark	...	gr. 48
Indrajaba (Kurehi Seed)	...	" 48
Mutha (Mulathi)	...	" 48
Bala (Povania Odorata)	...	" 48
Mochrasa (Bombax Malabaricum)	...	" 48
Bael Rind	...	" 48
Ataich (Atis)	...	" 48
Bark pomegranate	...	" 48
Water	...	½ seer.

Reduce it to half a poah and administer once or twice a day. This will arrest the accumulation of mucus and discharges of blood and griping pain near about the navel.

(h) If the pain in the abdomen is very acute, give Turpentine Stupe. This application would relieve tympanitis and other abnormal local sensations.

(i) If there is bloody mucopurulent discharges, use one of the following recipes in doses of 2 to 4 drachms.

(1) R Ayapan Leaf juice (Eupatorium Ayapana).

Pomegranate Leaf juice or Decoction Kurehi Bark.

(2) Kuksima Leaf Juice 2 drachms (Blumea Balsamifera).

Sugar ... 1 Tola.

Thrice daily.

(3) Kantanatia Root (Prickly Amaranth) ... 3 ratis

Black pepper ... 2 or 2½ no.

Sun dried Rice Water ... 2 oz.

Beat these into paste and administer once or twice.

This gives a wonderful result in blood dysentery if skilfully employed.

(a) R Thankuni 1 dr.  
Sugar 10 gr.

(b) R Batjhuri 1 dr.  
Sugar xx gr.

These two recipes are very good in Blood Dysentery as well as Bloody Mucous Dysentery and should be used with greater advantage in suitable stages.



- (4) Goat's Milk ... 1 oz.  
 Jampata Rasa (Black Berry Leaf) 1 oz.  
 Honey ... 1 dr.

Once to be administered on empty stomach in the morning.

- (5) Kurehi Bark ... 2 Tolas.  
 Mulathi ... 1 Tola.

Boil in 16 oz. of water and reduce it to 4 oz. ; 2 oz. per dose, twice a day, morning and evening.

- (6) Indrajaba (Kurchi seed) ... gr. 96  
 Bael Rind "  
 Bala (Porania Odorata). "  
 Sothi "  
 Water ... 16 oz.

Boil together to 4 oz. and administer at the rate of 2 oz. twice a day.

- (7) Kurehi Bark decoction ... 2 oz.  
 Ishafgul (Fried) ... 48 grains.  
 Caraway Seed (Fried) ... 48 "  
 Honey ... 48 minims.

Mft. paste; take twice daily till the mucous discharges completely disappear.

*Sastric Medicines* :—Ramaban Rasa, twice or thrice a day with the decoction of Mulathi is highly effective at the commencement of Dysentery in milder type. Susruta says "मासासाव अनुपानयोगतः सद्यः एव जडराग्नि दीपनः", i. e. it is an excellent curminative and highly efficacious in Dysentery with suitable adjuncts.

If there is high fever, it is to be given thrice a day with the following adjuvants :—

- R/ Bala (Porania Odorata) ... gr. 48  
 Ataich (Atis) ... " 48  
 Mutha (Mulathi) ... " 48  
 Bael Sunth (Rind) ... " 48  
 Dhania (Coriendar) ... " 48  
 Aqua ... 1 lb.

Boil the above to 2 oz., strain through a linen and administer it with Ramabana Rasa three times a day. This would reduce the irritation of the stomach and arrest pain in the intestines and fever.



If Ramaban Rasa fails to effect a cure, then Kanakasundara Rasa, Gangadhara Rasa or Kanaka Prova Batika singly or alternately should be prescribed to obtain the desired result with either of the combinations described above that would suit best the condition of the patient. Skilful selection would depend on the knowledge of therapeutic actions of the herbs on the part of the physician.

Anandabhairab, Abhaya Nrisingha Rasa, Agnikumar, Labangadi, Sree Nripaballav, Mohabbra Batika, Mohagandhaka, Bhubaneswar, Kutaja Leha etc. are remedies of choice in Raktatisara (Amoebic Dysentery) and should be administered with suitable adjuncts with marvellous results.

In Kaphatisara (Bacillary Dysentery), prescribe Nagadya Churna, Parthadya Churna, Grahani Sardul Churna, Mustakadya Modak, Grahani Kapat Rasa, Grahani Gajendra Batika, Sree Nripati Ballav, etc.; but if there is cedema, Parpati should be used. There are various sorts of Parpati in vogue, viz. Swarna-Parpati, Lauhaparpati, Tamraparpati, Makaradhwaja Parpati, Panchamrita Parpati, Bijoya Parpati.

At the time of administration of Parpati, milk should be given to the patient to drink; water should not be allowed to drink and the patient should be kept on salt free diet.

In Allopathy, treatment of Raktatisara (Amoebic Dysentery) chiefly consists of Emetine, Bismuth Carb, Yattrin, Tr. Opium. Extract Kurchi or many other preparations of Bazar Kurchi. But Kurchi alone would hardly suffice to give the desired result unless it is supplemented by some other suitable combinations of herbs having special therapeutic action on the mucous tract of human organism.

Allopathic system of treatment is gradually taking to the line of Ayurvedic treatment but in the application of the drugs the system is not following the Ayurvedic principle which is indeed the main factor to achieve success.

In Ayurveda, the preparations of Kurchi Bark, seed, and gum as well as Opium and Camphor in various combinations are in use and the writer found in his practice Kurchi in combination with other ingredients, as used in Ayurveda, gives decidedly better result in Dysentery than Extract Kurchi etc. Administration of Opium and Camphor preparations require considerable skill and if these preparations are injudiciously used at the commencement



of the disease, they may cause many untoward symptoms indicating fatality.

In the treatment of dysentery in Allopathy, we find quite a large number of patent medicines for administration and these patent preparations are now a days freely used by the Allopaths. The administration of patent medicines conclusively proves that Allopathic Pharmacopoeia is too poor in drugs, reliable enough to cope with treatment in the proper way and that is why market is flooded with such a large number of patent preparations.

Here I would quote a few lines from the December 1925 issue of the Journal of Ayurveda to show how inconsistent is the investigation of Allopathic System of Treatment in respect of uses of drugs. The Journal writes to say, "Scientific investigation had rejected Emetine and used Ipecac minus Emetine and now the same has turned round and using Emetine with vengeance, often indiscriminately in all cases of fever. The truth discovered to-day is rejected as false the next day.....The Scientific system is yet to find a natural law which pervades medicines."

Kurchi Bark has been highly extolled by Allopaths as would be found from the observation of Major Action and Chopra, published in the September 1929 issue of the Indian Medical Gazette which runs "In the Laboratory, and to a great extent Clinically, the total alkaloids of Kurchi Bark are superior to emetine. The Kurchi Alkaloids can be given in larger doses and so far no depressant, emetic or irritant effect have been observed by us. They are much less toxic than Emetine. In chronic Amoebic Colitis, 4 grains of Kurchi Bismuthous Iodide given orally twice daily for two days cured 12 out of 18 cases compared with one out of every two with Emetine Bismuthous Iodide."

The modern treatment in Allopathy for Kaphatisar (Bacillary Dysentery) chiefly consists of Anti-Dysentery Serum intramuscularly, Tincture Opium, Bismuth Carb, Ipecacuanaco as well as thyroid or parathyroid gland products.

Pharmacology and the therapeutic actions of the *sashtic* remedies enumerated above will be dealt with later on as the same are expected to be of interest to the readers.

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## Reports of Cases.

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### NOVEL TREATMENT FOR COBRA BITE.

BY GOPALDAS NARSING, L.M.P., MALARNA,

(Via) Gangapur, Jaipur State.

On 23rd March, 1932, a Brahmin lady was bitten on the hand by a cobra; she reached the Malarna Dispensary 15 minutes after she had been bitten. Symptoms of poisoning were just beginning to show themselves. The following treatment was carried out:—

Two ligatures, one just above the wrist and another near the insertion of the deltoid muscle, were applied. The site of the bite was incised freely and potassium permanganate crystals were packed into the wound. A number of chickens were collected within ten minutes and were kept ready as part of the treatment. Potassium permanganate was now removed, and the wound was cleansed and made to bleed freely. The anus of one chicken was then applied to the wound because it has been proved that it has a wonderful power of suction, and is, therefore, ideal for drawing out poison from a poisonous wound. The younger the chicken the greater is the power of suction, but for all practical purposes a three months old chicken is satisfactory for this purpose. It is easy to handle and, on account of its low vitality, dies quickly as it absorbs poison. This also confirms the diagnosis as to whether the snake is a poisonous or a non-poisonous one. As soon as one chicken shows abnormal signs and symptoms it is replaced by another and so on. In this particular case eleven chickens were applied within 2½ hours. The last two survived, showing that all poison had been removed. The patient made complete recovery. In connection with this treatment it must be pointed out that it is necessary from time to time to cleanse the wound of coagulated blood and keep it bleeding freely by frequent scratching. The chicken's anus must also be cleansed from time to time. This treatment is of particular value in rural areas where chickens can be procured practically in all cases quickly and without difficulty. My thanks are due to the Director of Medical Services, Jaipur State, for permission to publish this report.—*Antiseptic.*

## Medical News & Notes

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### DAN RIGHER ON NUDISM

In the September Issue of Nature's Path Dr. Lust saw fit to print an editorial concerning the nudist movement in this country in which he denounced the present tendencies as unwise and unsound. As a result,



he received several scores of letters asking him to clarify his position in view of his sun-bathing facilities in both his Butler, New Jersey, and his Tangerine, Florida, sanitariums.

Dr. Benedict Lust is for, and has always been for, sun bathing. He believes in it absolutely. He has proved countless times that the sun is a great healer—a magnificent restorer of health. He has maintained complete departments for sun bathing in the nude at his two great institutions for over thirty-five years. One of the foundation stones of his success may be indentified as his sun-bathing departments.

Dr. Lust is unequivocally against nude sun-bathing of the sexes together. This he absolutely opposes. He is not a prude—has no far-fetched Puritanical ideas—is not narrow-minded nor a back-number. But he has lived a long time in the United States of America and knows something of the prejudices and the standards of civilization, which influence tremendously the people of this great country. Again, he has an investment in his sanitariums that runs into the hundreds of thousands of dollars which he wishes to protect and preserve—not altogether selfishly but also from the standpoint of the good they are doing for humanity.

Frankly, it is his opinion, that a mixture of the sexes in nude sunbathing will not “go” in the United States. These nudism faddists who are now basking in the limelight of newspaperdom are doomed to failure. Now their camps and colonies are “news”—tomorrow they will be a “menace to civilization” and will be denounced from the pulpits throughout the breadth of this land. The result is a forgone conclusion—the church element is the strongest factor today in our political life—the 42,000,000 members are absolutely a solidified party on a matter of this nature, and, united, they can throw every politician out of office over night. If they were “eye to eye” on the harm of Prohibition they could nullify the 18th Amendment in a week. On the matter of mixed sexes nude sunbathing, they are united and will remain united.

If there are morons in this country who believe that the church has lost its power—that it is no longer to be reckoned with—let them hold on to their opinions until the heavy foot of the church displeasure mashes them to jelly. As an example, a single church in Brooklyn—a church with only 1,500 members—was enabled, through good leadership, to have taken from the newsstands the various so-called “Art” magazines—fighting a militant publishing group with a combined capitalization of over \$15,000,000. What the 500 churches of Brooklyn, roused to frenzy, could do, any second-rate politician in the country can tell you—and how!

It is not my intention to intimate that the nudists camps in Germany and the rest of Europe are mere congregating places for all manner of



degenerates. Many of these places have splendid rules that are religiously enforced—barring all persons with venereal diseases and absolutely forbidding the use of alcoholic beverages of any description. But what is all right from a European standpoint is not necessarily correct and possible in the United States. This country has grown up with a different mode of morals—right or wrong—there are certain things the average American will not stand for and whether he may be considered narrow-minded and prudish, a hypocrite and a bigot, the day will never dawn when the mixed sexes may disport themselves in the nude on a public beach or in a private camp.

Dr. Lust realizes that the tendency of the times is to be more liberal—but he is also cognizant of the fact that even in far-away Tokio the Yoshiwara district of segregated prostitutes has just been abolished because the returning American tourists had broadcast its iniquity and the Japanese export trade with this country had suffered accordingly.

Bathing in the nude is splendid—but the sexes must be segregated. If the mixed-sexes nudist movement of a few fanatics is not nipped in the bud, all forms of nudism will fall under the ban and sunbathing in the nude, under any condition, will be stopped by public opinion backed by ill-considered laws of our many legislatures.

### MEDICAL COLLEGE, CALCUTTA.

#### Dr. Chandra's Scholarship in Materia Medica and Therapeutics.

The above scholarship of the value of Rs. 361-8-0 will be awarded to the best successful candidates who will be selected at an examination to be held this session in March 1933.

- (1) The examination is open to all senior students of the Medical College, Calcutta.
- (2) Any ex-senior student of the Medical College who may at the time of the examination be studying at any Medical College in India or Europe.
- (3) Any graduate or licentiate in Medicine of whatever standing and however employed who may have obtained either in Europe or in India a Medical Diploma or degree entitling him to practise medicine provided that such a graduate or licentiate at some time received a portion of his professional education in the Medical College, Calcutta.

Certificates to the effect that the candidate fulfils the above requirements, together with one of good moral character signed by a person of respectability, should be submitted to the Principal, Medical College, Calcutta, on or before the 15th February 1933.



Candidates are required to write an essay on "The pharmacological Action and Thearapeutic Uses of Rauwolfia Serpentina (Dhar Barua or Dhan Norua) and submit the same to the Professor of Pharmacology, Medical College, Calcutta, by the 15th March 1933.

Personal attendance at the examination is not necessary.

Preference will be given to the candidates whose thesis bears evidence of original investigation on the subject.

26-11-32

*Principal, Medical College, Calcutta.*

### • THE INDIAN MEDICAL COUNCIL.

While 'The Hindu' of Madras regrets at the news communicated to it from Delhi quite recently that the Government of India are delaying the discussion of the Indian Medical Council Bill at the Assembly, we are glad at the decision of the Government as it will enable at least one prominent member of the Assembly, Sir Henry Gidney, who is the only doctor now in the Assembly and who by his public speeches has assured the profession that he would fight tooth and nail to remove all the defects in the Bill, such as non-inclusion of Licentiates, introduction of a reciprocity clause in the Bill, etc. will have the opportunity to speak there on behalf of the medical profession. Sir Henry Gidney is the fittest person to espouse the cause of the independent medical profession, especially of the Licentiat class, for whom he has the largest measure of sympathy. He declared in one of the Calcutta meetings, held recently, under the auspices of The Indian Medical Association, while referring to the recommendation of the Calcutta University, about the registration of the Licentiates in a separate appendix in the future Indian Medical Register: "There might be difference according to your degrees, but any attempt to have two categories on the Register of the Council would perpetuate the evil which we desire to stamp out. And I can assure you that when I speak on this Bill in the Assembly, I shall stress this aspect of the question as strongly as I can that we should not perpetuate this compartmentism." As mentioned already, it is not likely that Sir Henry Gidney can attend the Assembly till the next winter. So, in the interests of all concerned, the postponement of the consideration of the Bill is certainly a blessing.

### L. I. Ms. AHEAD.

It is announced in the press that the Madras Government had recently decided "that certificates granted to Government servants by qualified practitioners of Indian Medicine may be accepted provided that the practitioners are in the employment of the Government and that they are the medical attendants of the Government servants. The



question of accepting other certificates has been deferred until the question of registration of practitioners of Indian Medicine is decided." We congratulate the L. I. Ms. and others in the practice of Indian Medicine at the Government Indian Medical School, Madras and specially the Principal of the School that they with Dr. G. Srinivasamurthy as their Head have been able to achieve what the members of Allopathic system of medicine could not do even after the passing of the provincial Medical Act as early as 1914. The old procedure of "counter signature" followed recently by "a second opinion" does not find a place in this G.O. as in old G. Os. concerning registered medical practitioners of the Allopathic school of medicine. While musing over this piece of news, so many eventualities come across the mind : (1) Did any important officer of the Government fall ill and was treated at the Indian Medical Hospital or by a member of the staff of the Indian Medical School, and did such an officer find it rather troublesome or unreasonable to get a medical certificate from a registered Allopathic practitioner and strongly pleaded with the Home Member of the Government of Madras, who is in charge of the portfolio on "regulation of professional qualifications and standard" to confer on practitioners of Indian Medicine the privilege of granting Medical certificates ? (2) Did the fact that the Deputy Secretary, Local Self Government Department, who has powers to deal with the medical degrees including the "Indian Medical Degree" is also the Deputy Secretary to the Home Member for the "regulation of professional qualifications and standards" facilitate the passing of the G. O. ? (3) Is there a special secret ceremony of initiating the practitioner of Indian Medicine under Government employ to be true disciple of the God or Goddess of Truth and Honesty ? (4) Is it after all a national awakening at the Government Secretariat, an Indian member assisted by an Indian Deputy Secretary being in charge of the "regulation of professional qualifications and standards ?" The present Chief Minister, and the ex-Chief Minister in charge of the medical department cannot claim much in this direction of nationalism as they are Indians in charge of transferred subjects and naturally expected to be national in their outlook at least, as nobody could know their 'innerlook.'

It is reported to us that the Madras Medical Council at its last session have passed the following resolution : "The Council recommends to the Government that all registered medical practitioners should be treated alike whether they are in service or in private practice in the matter of issuing certificates for whatever purpose by virtue of their being registered medical practitioners." It remains to be seen if the passing of the above resolution is a lucky or unlucky coincidence just at this juncture. If the Government members who have been so genuinely national in their outlook with regard to the G. O. referred to, mind it, they can surely and magnanimously agree to pass a G. O. putting into effect the



principle conveyed in the above resolution. The qualified and registered independent members of the profession should take a lesson from the recent G. O., and instead of entertaining any other feeling regarding this subject, should take advantage of the G. O. as an additional reason for granting them rights and privileges which the Government have been denying them so far.

### HELPLESSNESS OR INDIEFERENCE ?

We learn that Dr. V. Rama Kamath brought to the notice of the Government about not summoning of the October session of the Madras Medical Council by the President and that he received a reply that the Government "decline to advise him in the matter". It is an open secret that very often the Secretary of the Department is the Governmet itself dealing with files on subjects like the affairs of the Madras Medical Council which, as passing events show, is not attracting the attention of the Government, the public and much less the medical profession. Therefore it surprises us the least that Dr. Kamath should receive a reply which connotes that either the Government is helpless to direct the President to do his legitimate duties as required by the Madras Medical Registration Act or Indifferent as they are almost sure that neither the profession as a whole nor the public for whom the Medical Act is said to exist are callous regarding the existence of the medical council in this province.

From the replies given by the Home Member on the floor of the Legislative Council on 1-11-32 it is clear that the Government are aware of grave irregularities such as falsification of account, fabrication and destruction of public records and documents and misappropriation of public funds in the working of the office of Registrar, Madras Medical Council. We published in our "Correspondence columns" last month four resolutions of which notice was given by Dr. Kamath to be moved at the October meeting of the Medical Council and which indicate that (1) medical practitioners who paid fees for registration do not find their names in the published register, (2) that the Council had not taken steps to register the names of such of the practitioners who had in their possession proof of having paid the fees for registraion, (3) that the clerk now employed on probation does not possess the required qualification demanded for such a post, and (4) that the financial condition of the Council does not permit the payment of double second class fare to mofussil members, as travelling allowance. There was a meeting on 20th September 1932, specially convened to consider the reports of two Committees appointed by the Medical Council in March last, one to go through the affairs of the office of the Registrar and the other to go through an alleged fraudulent registration. In the published programme of the



meeting referred to above there was nothing to indicate that the Government had "communicated to the Council which has been requested to conduct a thorough enquiry into the matter, rectify the irregularities brought to light and submit a report showing the action it has already taken or proposes to take in the matter," as mentioned by the Home Member on the floor of the Legislative Council on 1-11-32. It is reported that Dr. Kamath wrote to Government complaining that the President of the Medical Council did not summon the October meeting on 24-10-32 and the Government passed orders on 26-10-32. We also learn that Dr. Kamath sent his resolutions to the President on 13-10-32. So it may be safely said that the Council had a lot of work to do. It was rather not possible for the Government to conduct an enquiry on the complaint made by Dr. Kamath within two days as could be justified from the usual rate of the moving of the wheels of the Secretariat machinery, especially in a matter concerning the Madras Medical Council. If the Government did run the wheels quicker, as they could certainly do if they want, and if the President of the council informed the Government that there was no work to be transacted for the October meeting, the reply of the President cannot be justifiable on the face of the fact that Dr. Kamath did in time give notice of four resolutions, all of which indicated that there was much to be done by the Council. We could only say that the Government could not face a grave responsibility which is certainly not less grave than the replies made by Home Member on the floor of the Legislative Council on 1-11-32 regarding the affairs of Madras Medical Council.

*The Medical Practitioner.*

## Reports of Societies, etc.

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### ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CORPORATION OF MADRAS FOR 1931.

The Report under review shows improvement both in the get up and size. It is possible to reduce the latter by including small tables and statements with bigger ones as for instance Table F. may be included in Annual Form 11 by the addition of two more columns and the inclusion of infant mortality in Table D for easy reference. It is hoped that in course of time the report will be so drawn and got up in such a way as to compare favourably with the Public Health Department Reports.

#### POPULATION.

The last Census showed an increase of 22.8 per cent and the increase is said to be "phenomenal". It is well known that in 1921 non-co-operation movement was very prevalent and acute and that in certain places



supervisors and enumerators declined to do the work and the public also refused to supply information. So it is highly probable that in the last census there was under enumeration and if it had been correct the increase in this census will not be high. Coming to the figures in this census, it is stated that the number of infants under one year in the city was 13469. It is well known that when giving the age of a child parents are likely to give one year even though at times it is one year and a few months old. So the number 13469 may include some older children also. According to the vital statistics of the city returns, the number of births actually registered in 1931 was 25738 excluding still births and the actual number of infants that died during the year was 6391, leaving 19347 cases living. It is assumed as is done always that the number of infants born in a locality is equal to that born outside and brought into the locality. The difference therefore between 19347 and 13469 amounting to 5878 is appalling and gives an idea of the accuracy either of the census or the vital statistics registration in the city.

It is stated that the transference of such a vast population into the city was possible by the enlightened policy of the Corporation in launching the Mambalam extension. The census figures given for each division works out the variation in the population from a decrease of 9% in Mutdialpet division to an increase of 53% in Thondiarpet and Korkupet. The Royapettah division in which the Mambalam extension is included gives only an increase of 45 per cent, while Mirsapet 46 and Perambur 49 per cent, show an increase more than that of Royapettah. The increase in Royapettah for 10 years is 45 per cent and the population of Mambalam in 1927 was 1880 and the latter could not have been increased by 45 per cent in the last 4 years. Any body seeing the place will be convinced that it presents a deserted appearance and almost every day sale advertisements of sites and half built buildings are published in the papers. The site is low and during rainy season except the roads and the houses, the rest are filled with water. The question for consideration is whether the Corporation is justified in lavishly spending such a large amount of money in the making and maintaining of roads and lighting to serve such a small population while streets and lanes in other parts of the city with a larger population are neglected.

The increase of population in the different castes and races works out as follows: Europeans 22 per cent, Anglo Indians, 18 per cent, Indian Christians 24 per cent, Mohammadans 32 per cent, Hindus 21 per cent and others 53 per cent. Among Hindus, Brahmins show an increase of 29 per cent. Chetties 4, Vellalas 24, Balijahs 21, Vannia 38, Adi Dravida 25, Patnavars 8, Yadhavas 11 and Kammalas 14. The most interesting point worthy of note is that while the total number of deaths was in Balijah 14126 and Vannia 19613 during the last seven years for which figures are available and exceeded the total births 12107



and 19516 respectively; that in the census year 1931, the Balijah community shows an increase of 21 per cent and Vannia 38 per cent. Does it mean that these two communities had largely migrated into the city when the census was taken? This is hardly believable. Either the vital statistics returns or Census figures or both are unreliable.

#### GENERAL BIRTH, DEATH AND INFANT AND MATERNAL MORTALITY.

The general birth rate for the year was 39·8. It was the highest among the Mohammadans 41·6 followed by the Hindus 40·4, Anglo Indians 35·8, Indian Christians 34·2 Europeans 13·4 and "others" 0·3. Among "Others" whose population is 2901 there was only one birth during the whole year while among Europeans whose population is 3581 a little over that of "others" there were 58 births, seems unreliable and requires investigation.

The general death rate was 35·8 and the Mohammadans top the list with 39·9 followed by Hindus 36·5, Indian Christians 26·8, Anglo Indians 25·0, Europeans 6·7 and others 1·0. Even in the matter of death, that only 3 persons died among "others" is hardly believable and also requires investigation. Among the Hindus, the highest was among the Patnavars 47·3 and the lowest among Brahmins 20·4. The death rate among Adi Dravidas and Patnavars have exceeded their birth rates and it is very striking in the case of the latter and demands enquiry.

The infant mortality among the general population was 24·8. In other words, nearly one fourth of the number of infants born die before they complete their first year of life. There does not seem to have been any appreciable decrease in the rate in the preceding decade and the small variations shown in several years of the decade may be accounted for by the efficiency or otherwise with which the vital statistics had been collected. That the operations of the Child and Maternity Welfare Scheme have had very little effect in this matter is now clear. It is stated by an eminent authority that "Go where we will and examine what statistics may be available, what we find invariably is that a high birth rate and a high infantile mortality rate go together. More children's cradles imply more children's coffins. This is the case all over the world. An enormous unchecked number of births and a correspondingly high number of infants destined never to emerge from infancy." Any measure adopted, therefore, to bring down the infant death rate which does not also reduce the birth rate will not only fail but involve a waste of money. The truth of the above statement is borne out by the birth rate and infant death rate of the different castes in the city. The Europeans whose birth rate is the lowest have the lowest infant death rate while the Mohammadans whose birth rate is the highest have also the highest infant death rate. The infant mortality of



Patnavars is given as 120 for the year under review and their death rate is highest 473. The figure 120 seems therefore unreliable and demands enquiry.

The Maternal mortality rate for the year is 11.4 per 1000 births. Before making comparison it must be known whether all deaths occurring after child birth are returned under "child birth." Some time back, all deaths occurring within a month of child birth were returned under that heading. Unless each death occurring among women after child birth is seen and examined by medical men, no correct inference can be made on the fall or rise of the deaths returned each year.

#### CHILD WELFARE SCHEME.

This department was under the direct control of the Health Officer till October when it was placed under the independent charge of the Lady Superintendent. Sometime back the Conservancy department also was removed from the control of the Health Officer and placed under an independent officer—afterwards brought back and placed under the Health Officer. This reminds one about parasites which, in order to complete their cycle of life, pass some portion of their existence outside their hosts. Not only the Child welfare scheme was separated from the Health Officer but the report of the Lady Superintendent is removed to the end of the report of the Health Department.

The incorrect and insinuating statement given in the last report exhibiting lower incidence of Maternal mortality among the cases attended under the Scheme, than that obtained in hospital cases without mentioning that all the cases attended by the C. W. S. were normal cases while most of the cases admitted into the hospitals including the cases sent by the C. W. S. were difficult cases, are happily absent in this report. In our opinion the bathing of infants and supplying free milk to them are not important duties and we are glad to note that the Director of Public Health also pointed their uselessness. The Lady Superintendent however states that without bathing and free supply of milk the Child Welfare Scheme will be incomplete.

It is stated that of 13514 cases of labour that came under the care of the scheme only 10449 normal labour were actually conducted by the scheme and 1244 difficult cases were sent to hospitals. The number of deaths that occurred among the normal cases actually conducted by the scheme was 8 and the rate works at 0.78 and not 0.61 as given in the report. The same mistake was made in the last report also. The maternal mortality of 0.78 in normal labour conducted by the trained and carefully supervised midwives compared with the rate of 1.1 obtained in all cases—normal and difficult and unattended by any midwives in the city, cannot be said to be satisfactory and does not



reflect any credit on the Scheme. It is for difficult cases that skilled assistance is required. If the C.W.S. is intended only as a clearing house to select difficult cases and send them to hospitals, the utility of spending money on this scheme and the existence of a large number of lady doctors—13 in the staff—are not clear. Poor patients cannot afford to secure the services of private doctors and the accommodation in the maternity hospitals is limited. As long as private doctors attend cases in the houses of even poor patients why not the lady doctors attached to the scheme do the same? Not only do the lady doctors not attend and assist the scheme midwives, but the latter do not remain or assist the private doctors when called in to conduct labour. There is no meaning in the lady doctors and Health Visitors making visits. They are absolutely useless. In the place of Health Visitors of whom there are 30, qualified midwives may be appointed and if the lady doctors cannot attend difficult labour cases in the houses of poor patients their services are of no use and may be dispensed with. The treatment of puerperal and other diseases as out-patients may very well be done at the several maternity hospital dispensaries in the city.

The same mistake committed in the last report of calculating infant mortality and comparing it with the city mortality rates calculated on a different basis, is persisted this year also. We think if the corporation authorities or the Director of Public Health would not look into this matter and bring home the mistake of the C. W. S. the figures will continue to vitiate the report.

The intimate connection of Birth control with Public Health and Maternity welfare Scheme is not yet recognised. The following observation of Dr. August Forel M.D. is worth quoting in this connection. "To build an ever increasing number of hospitals, asylums for lunatics, idiots and incurables, reformatories etc., to provide them with every comfort and manage them scientifically, is undoubtedly a very fine thing, and speaks well for the progress and development of human sympathy. But what is forgotten is, that by concerning ourselves almost exclusively with human ruins, the results of our social abuses, we gradually weaken the force of the healthy part of our population. By attacking the roots of the evils, and limiting the procreation of the unfit, we shall be performing a work which is much more humanitarian, if less striking, in effect."

#### PATIENTS TO PAY.

It looks as if the Government is mainly responsible either here or elsewhere for the state of affairs in the Government hospitals which instead of being resorted to by the necessitous poor are now freely taken advantage of by the middle class and the rich. It is certainly not a



sound policy to entrust medical officers in charge of state hospitals with the work of charging well-to-do patients nor is it fair to make invidious distinctions between a well-to-do government servant and a well-to-do private citizen with regard to charging of fees for treatment in the hospitals, such a distinction being not known in any other civilised country. In years gone by, during the regime of the East India Company and even later when the Government became an Empire, such a concession was perhaps justifiable to officers recruited from England and Wales just to encourage them to come down to this country. That such concession should continue till this day in case of Government officers even in the position of High Court Judges drawing a salary of Rs. 4000 a month or even more is to say the least most ludicrous.

Quite recently we are told that the Government of Bombay have revised the scale of fees to be paid by in and out patients attending state hospitals as a retrenchment measure and for this purpose defined a "well-to-do person" to be one who is in receipt of an annual income or salary of Rs. 1000 or more or who is a member of a family of such a person. In Madras a "well-to-do person" is defined as one whose salary or income is Rs. 1200 or more. The Bombay Government seems to have passed orders that all out-patients should pay one anna for daily attendance at Government hospitals and annas two in state-aided hospitals. While the fee for in-patients has been fixed at annas eight per each Rs. 100 of income, the maximum to be paid not being more than Rs. 10 per day. The Government servants have to be treated free indiscriminately whether they are poor or well-to-do and it is not known if they have to be treated free as in-patients also. In Madras, the existing Government rules (which have not been changed as a retrenchment measure) prohibit advice and treatment for well-to-do patients in out-patients department and the prescribing officers being given the discretion to judge who is well-to-do, the rule works very smoothly till the out-patient incurs the displeasure of the officer in charge. Regarding in-patients the rules have been made stiffer *i.e.* more paying, a few years ago, patients being charged according to income from annas eight to Rs. 2/8 for diet, nursing and advice per day in case of persons in the general wards whose salary ranges from Rs. 50 to Rs. 200 or more and in case of patients admitted in special wards the fee ranges from Rs. 5 to Rs. 20 a day for diet and nursing and medical advice, a special additional fee ranging from Rs. 100-50-350 being charged a day for major operations and confinements. There are not many nursing homes in the city of Madras and one or two that have recently come into existence are conducted by members of service at the top. In Bombay, affairs regarding in-patients, treatment seems to be quite different from that of Madras; poor patients are seen in larger numbers as in-patients, the rich and middle class usually prefer to be in private hospitals or nursing homes of which there are



a good number run by members of the independent medical profession. Out-patients department being always the feeder of the in-patient department, the discretion allowed to the medical officers to certify who is rich and who is poor has made it possible at least in Madras for the rich to attend to out-patient free ; and their going into the in-patient department or to the nursing homes depending not so much on the existing rules as the doctors are not expected to know the exact income of the patients. They have to diagnose the income by methods peculiar to each medical officer. It is thus seen that the principle adopted by the Madras and Bombay Governments are the same though in the matter of assessing income and charging of fees they differ and so long the Government do not appoint almoners for the purpose of admitting patients in the hospitals as is the case of charitable institutions in England, the income earned from hospital patients will not be a tangible amount which will relieve the financial burden of the Government usually or even during the days of retrenchment. The Rules of admission as well as the methods of assessing fees both in the in and out-patient departments in State hospitals do one thing certain *i.e.* depleting the income of members of the independent medical profession,

It is highly desirable that the Government bring about a uniform scheme of Hospital Administration so that state hospitals are run only for the necessitous poor with the help of the honorary medical staff ; then and then only the Government could expect to be relieved of a big financial responsibility of medical relief and the members of the profession will devote themselves for service and research as is the case in other civilised countries.

*Med. Pract.*

## RURAL MEDICAL RELIEF SCHEME.

### MUCH ADO ABOUT NOTHING.

One of the items for discussion at the Conference of the representatives of the subsidised rural medical practitioners and the Honorable the Chief Minister with the Heads of the Medical and Public Health Departments and the Deputy Secretary, Local Self-Government Department, which met on 4th and 5th April 1932 at Madras, was about the question of disbursing the subsidy through the District Medical Officer, instead of through the President, Taluk Board, concerned. A G.O. has been published regarding this subject on 9-9-1932.

This G. O. No. 1932, dated 9th September 1932, enunciates that on the first day of the month following that to which the claim relates, every rural medical practitioner should prepare in duplicate a bill for the subsidy due to him and the midwife with the necessary certificates (a)



and (b) annexed to the G. O. One copy of the bill should be submitted direct to the District Medical Officer and the other copy through the President of the Taluk Board who should forward it to the District Medical Officer, not later than the 7th of the month with his remarks. The District Medical Officer should peruse the remarks of the President, if any, and then decide either to pass the bill or disallow any portion of the claim. Against every order, disallowing the claim in part or whole, an appeal will lie to the Surgeon-General. If the President of the Taluk Board's remarks are not however received by the District Medical Officer by the 10th, he should proceed to dispose of the bill on the information, if any, available with him. After scrutiny, the District Medical Officer should return the copy of the bill, submitted direct to him to the rural medical practitioner concerned. The latter should cash it at the treasury not later than the 15th. The other copy sent through the President of the Taluk Board should be kept in the District Medical Officer's office as his office copy. After the encashment of the bill, the rural medical practitioner and the midwife should furnish acquittances (stamped wherever necessary) and send them to the District Medical Officer for check with the office copy of the bill and record.

The rural medical practitioner, prior to the passing of this G. O. was receiving his subsidy by not later than the 8th of every month in the shape of a cheque, on submitting a bill with the necessary enclosures direct to the President, Taluk Board, on the 1st of every month. The additional subsidy given to the rural medical practitioner by some Taluk Board Presidents from the Local Funds, in addition to the Govt. subsidy was drawn on the same bill without any complicated procedure or additional trouble, as the Taluk Boards were adjusting the accounts quite easily. But unfortunately, the present G. O. No. 1932 dated 9th September 1932, with all its paraphernalia, is an encumbrance rather than an unavoidable inconvenience to the rural medical practitioner, as he will not receive even his inadequate subsidy before the 15th of every month. In addition to this, he has to submit another separate supplemental bill direct to the President, Taluk Board, every month, if he were to receive any additional subsidy from the Local Fund according to the conditions laid down in the bond, executed by him.

The cogency of the argument that the rural medical practitioners are a sort of independent medical practitioners who render prompt and necessary medical aid in all times of need to the necessitous poor and suffering humanity of the rural areas is also much perturbed by this G. O., as it added an enhanced subordination to the Presidents of the Taluk Boards concerned, restraining the little freedom enjoyed by this class of workers previously.

The G. O. states that the rural medical practitioner should encash the bill by the 15th of every month soon after he receives it from the District



Medical Officer who passes and returns it to him by the 12th of every month. It makes no alternate provision for the bill to be encashed after the 15th of the month, if the medical practitioner is unable to encash it by that date either due to his absence from the village, in case he takes casual leave in the interval between the 12th and 15th of any month at times or due to any other unavoidable circumstances. The absence of this provision in the G. O. is a great handicap to the medical practitioner concerned.

It is a great pity and strange irony to hear that the inventors of this complicated G. O., drawing fatty salaries and allowances every month, were not magnanimous enough to realise and ventilate the undiscovered troubles of the rural medical practitioners by redressing their grievances promptly and by raising their annual subsidy and status considerably. As long as a subject demands no financial strain, it is absolutely easy to pass any rule with innumerable clauses.

The remedy of reform suggested by them is worse than the disease itself. It looks as if the Government have not realised the spirit and purpose of the scheme. Though in theory the subsidised rural medical practitioners are independent, they are practically treated like those employed under an indentured system of labour.

If the scheme of rural medical relief is not worked in the proper spirit with which it was inaugurated it will be a wasteful item of expenditure, benefiting neither the rural population nor the members of the noble profession.

The paragraph No. 6 of the G. O. regarding the monthly payment states that the amount due for a month works out to Rs. 41-10-8 in the case of a rural medical practitioner with L. M. P. or L. I. M. qualification. The rural medical practitioner is in a very disadvantageous position, as he is handicapped by the authorities that open the rural dispensaries and by the lay public among whom he works, as the former think that the patients pay him adequate remuneration for his services and pay an annual subsidy which is not enough even to attend to the bare necessities of his life and the latter pay nothing to him with the erroneous impression that he is highly paid by the administrators and that he is provided with an adequate supply of drugs and necessary equipment.

Hence the subsidy for a rural medical practitioner with L. M. P. qualification should be raised to at least Rs 75 per mensem. i.e., the starting minimum salary of a fortunate sub-assistant surgeon in Government service to maintain his dignity and status in the society, attending to the bare necessities of his life. He gets no contingency allowance and no annual increment during his service and no pension during his old age. The rural medical practitioners (in charge of many rural dispensaries) has to perform the multifarious duties of a doctor, com-



pounder, midwife and the menial staff under most humiliating circumstances in remote villages, as he is not provided with any sort of subordinate staff. If the Government are unable to raise the subsidy immediately due to the financial crisis, they should at least strongly advise the Local Boards concerned to pay the raised amount from the local funds, as the rural medical practitioner serves both under the local board and the Government.

It is hoped that the Secretary to the Rural Medical Practitioners' Association, Madras, will endeavour for getting the subsidies disbursed through the District Medical Officer earlier than the 15th of every month without any interference by the President, Taluk Board, on submitting a bill with the necessary enclosures to the District Medical Officer alone, on the 1st of every month for the subsidy of the previous month and prevent much inconvenience, by addressing the authorities concerned on the subject.

## Reviews and Notices of Drugs

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### READER

For the treatment of pain and stiffness accompanying rheumatic and other disorders in the extremities, the application of heat is the most useful single measure known.

The local application of heat has a pronounced effect upon the circulation of the blood and lymph. It results in the relaxation of tissues, in improved metabolism and in helping to carry away the various exudates, inflammatory products and bacterial poisons deposited in the diseased joints and inflamed nerve sheaths.

Experience has demonstrated that there is no more effective application for dilating the superficial and deep vessels than through the use of Antiphlogistine. Its heat-retaining qualities, coupled with its high glycerine content and other components, produces an intensive hyperæmia and causes the blood to flow in larger quantities from the deeper tissues to the surface under treatment. Thus, through the dilatation of the blood-vessels and the locally increased osmotic exchange, the pathological products are poured in larger quantities into the blood and there destroyed.

For the pain, stiffness or swelling associated with arthritis in the wrists, ankles, hands or feet; for sprains and strains; in fibrositis of the palmar or plantar fascia in the manipulative treatment of flat foot, where muscular relaxation is desired, the use of Antiphlogistine is always indicated. Physicians are invited to write to the Denver Chemical Manufacturing Co., 163 Varick Street, New York, for sample and literature.



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## Sleep

Our readers may be disappointed if they expect to find anything extraordinary in this dissertation which is but an attempt to discuss the subject purely as a topic of general health. We all know what is sleep, but it will not be altogether useless to explain its meaning.

By the term sleep we mean rest by relaxation. It is purely a physiological process. According to the authorities on Physiology, sleep is caused by the anæmic condition of the brain. During sleep the brain lies in a condition in which it does not respond to small stimuli, which are carried from external surface of the body by the afferent nerves to the central nervous system. During sleep the body remains in an unconscious state. What the Physiologists say is that during waking state the nerve cells remain in contact with each other by nerve fibres and the stimulus is easily carried from cell to cell, to the central nervous system, where it is analysed and perceived; while during sleep, these nerve cells do not remain in proper contact but remain separated and the impulses are not carried properly from external nervous system to the central nervous system, and this state of the system prevails during sleep, and unconsciousness during sleep is also due to this fact.

In sleep we are divested of our normal consciousness. But it need be hardly mentioned that the state of absence of consciousness is produced in various other ways. We see that certain chemicals can produce unconsciousness, viz., Chloroform, Ether etc. What is the difference then between the unconsciousness produced by these



chemicals and that during sleep? The chemicals enter the body, reach the cells and hinder the action of protoplasm in its vital activity, and the vital process being lessened, the unconsciousness results. Until and unless the vital activity returns to normal condition by cessation of the drug effect, the consciousness does not return. If the lessening of this vital activity is allowed to continue to a further extent, the poison may destroy the activity for good, and the consciousness never returns but leads to eternal sleep. Thus it is a pathological condition while sleep is a physiological condition, required for the proper up-keep of the normal health and happiness. What is more sweet than sleep? What is more comfortable than sleep?

“\*\*Blessed barrier between day and day,

Dear mother of fresh thoughts and joyous health.”

Sleep is rest after exhaustion, it is the healing balm of human troubles, it is panacea of all human miseries—the sweet slumber ;

“\*\*\*\*O sleep, O gentle sleep,

Nature's soft nurse,\*\*\*\*

Anything which lessens the functional activity of the brain may induce sleep. Fatigue, exhaustion etc. may induce sleep in normal condition of the body. It is also a cyclic phenomenon of the nervous system ; repose after disturbance, peace after weariness.

Certain drugs induce sleep in other ways. These reduce the metabolic process of the cerebrum. Others arrest the conducting power of the nervous tissue and “Lessens the relationship with the external world.” Such drugs are called Narcotics ; Morphine, Cannabis Indica are examples. These drugs in their action follow the “Law of dissolution” ; the peculiar phenomena in which the depression proceeds from the highest function of the brain to the lowest one. The judgment of the brain yields first, then the person loses his power of coherent speeches. Then the muscular system is affected, and he



cannot exercise the works of his voluntary muscles,—a comatose condition supervenes and finally this state may lead to the final annihilation, to eternal sleep.

I have mentioned the term "consciousness" for more than once. An enquiry into the meaning of this term, though comes strictly within the domain of Psychology, would not be out of place to deal with here to make the subject a little illustrative. It is a condition of the function of the brain. When we know something we say we are conscious of that thing. Thus it is a knowledge of the person. During sleep we become unconscious, when we are awake we are conscious. There is also a degree of this consciousness; it may be obscure when we have only little perception of any subject, or it may be definite which is firm to our knowledge. When again this gradation falls even below the first grade mentioned, the idea remains only in subconscious state of mind, and next comes the question of dream in this subconscious state of mind. In clear consciousness we can very vividly remember the subject of our knowledge, while when it is obscure we have a link only of the particulars and we try to remember it, and can distinguish it feebly, and the knowledge is not well defined. On the other hand, the idea is very distinct in one grade and indistinct in the next grade. It is accurate in one grade in which the knowledge can represent the fact very definitely, while it may not be very accurate and we cannot explain the facts vividly, but dashes in the description of the fact and we say generally many "as ifs". Again clear ideas may not be very distinct ideas. For example we have a very clear idea of the leading steps of our house, but can't say definitely how many steps there are altogether. We have very clear consciousness of the step in our mental eye, the shape, size, direction etc., but it may be that we can't remember the definite number of steps. The consciousness of any object thus is very difficult to define and it varies enormously in gradation. Thus consciousness,



unconsciousness and sub-consciousness are terms, very anomalous in their meaning. But all the functions of the brain of which we boast so much lead to such anomalies. Again consciousness is relative to our other knowledges and experiences. The thing which we cannot understand and which is totally out of the reach of our experienced knowledge, we cannot grasp the fact, and it does not come within the scope of our consciousness. The fact remains unintelligible and cannot retain its foot to our intelligence. On the other hand, some ideas are not manifested in our direct knowledge but remain under consciousness and we come to the subconscious state. The development of feelings and ideas in this subconscious state influences our mode of life to a very great extent. These states have got much influence upon our conscious life. The dreams are the expression of this sub-conscious state of mind, and it is the passive state of our knowledge. In our subconscious state we form ideas and we cherish desires which may not be reasonable to the natural state of human mind and may not be impressive to our conscious mind, but in dream, these take the form of real images and appear in a peculiar form, quite distinctive to sleep alone. From infancy we learn to repress our sweet wishes which but remain in our subconscious life and these take apparent shape in our dreams; and our conscious life becomes astonished to have undergone such lively state of vividness.

But sleep is not always normal and this leads us to consider the physiology of abnormal sleep. There are two kinds of abnormal sleep:—(1) Somnambulism, (2) Hypnotism. The proper meaning of Somnambulism is walking in sleep. Sometimes under its influence, persons perform extraordinary feats, talking, writing, etc. and there are many interesting stories around this phenomenon.

By Hypnotism we understand an artificial sleep, which is induced upon a subject by another, who exercises an



influence upon the subject throughout the time of the sleep. It is also a peculiar phenomenon. It is "A charm that lulls to sleep." In this kind of sleep, the subject talks under the direction of the Operator, performs feats under the guidance of the person under whose influence he remains at that time.

But it is not possible that any undue influence can be exercised upon the subject or that he can be influenced to perform any wrong deed. It is not possible to expect from him any action which the subject is quite aware in his innermost heart to be a sin or a crime. On the other hand, much good can be done to the individual through the influence of hypnotic sleep. Bad habits can be done away with ; many diseases especially of nervous origin, can be cured through its influence. Every medical practitioner takes the help of suggestion in one form or other, he often tries to fill the mind of the patient with the hope that he would be cured soon, that he would be relieved of his ailments very soon. The faith upon the physician is ascribed in one sense to this influence. The magnetic force and will of the physician often help much to cure patient from his sufferings.

Natural sleep is needed by every individual. Defective and deficient sleep causes much harm. During sleep, every organ of the body gets rest more or less. The brain and the voluntary muscles get the rest most, but other nerves and the spinal cord get no rest. The heart, the lungs and the digestive system work during sleep. But they also get benefit from sleep. The activity of these organs is diminished and thus they are invigorated after a normal sleep. The amount of sleep required by an individual varies according to his age, occupation and individuality. The children want it for a longer time, while the aged very little. Brain workers require it longer than the physical workers. Some persons feel no inconvenience though allowed to sleep for a few hours only ; others do not feel well if not allowed to sleep for



sufficient time. In my opinion, a healthy adult requires at least sleep for eight hours in twentyfour hours ; and a person suffering from illness should be allowed to sleep longer. Sleep is so sweet and so soothing that sleeplessness seems to be a penance. In conclusion, the causes of insomnia may be discussed a little. Some simple things may cause a restless night. Simply a foreign bed may be the cause, or even a very hard bed may lead to defective sleep throughout the whole night. Excessive indulgence to tea and coffee may lead to sleeplessness. As a hungry person cannot sleep, so a person after a good feast feels the same discomfort. Sound sleepers do not care for ordinary noises but I think none can sleep amidst boisterous surroundings. If the mind remains in a disturbed condition such as anxiety, overexertion, emotion, fear, worry etc., it may lead to sleepless night. Various nervous disorders, e.g. mania, insanity, etc. may lead to sleeplessness. Bodily pain from any cause may also lead to sleeplessness. Certain diseases hinder sleep very much, e.g. Asthma, myocardial disease, etc. High blood pressure is also one of the causes of insomnia.

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#### FACE POWDER AND ANCIENT GREECE.

That white face powder was produced in ancient Greece 400 years before Christ by methods identical with contemporary processes has been established at Princeton University by a chemical analysis of the first white cosmetics ever recorded, states *Drug and Cosmetic Industry*. The face powder was found in a woman's grave at Corinth by Professor T. Leslie Shear, of the Department of Art and Archaeology of Princeton University. Discovered in a small terra cotta vanity box in a tomb which also contained a silver coin and several vases during an archaeological expedition in 1930, the powder was brought back to Princeton by Dr. Shear, and has been analysed by Professor William Foster, of the Princeton University Department of Chemistry. The cosmetics were found to be cubes of carbonate of lead which had been manufactured by the Greeks through basic methods similar to those to-day used in the production of white lead. The discovery of the white skin preparation by Dr. Shear is the first ever recorded.



## Original Articles

### YAKSHMA OR TUBERCULOSIS IN AYURVEDA

BY

KAVIRAJ A. C. KAVIRATNA

*Calcutta.*

“प्रलिप्यन्निव गावाणि घर्मो गौरवेन च ।

मन्द ज्वरं विलिपीच मशीतः स्यात् प्रक्षेपाकः ॥”

*Symptoms* :—The Tubercular Bacilli looks like slender rod-shaped body. The disease is contagious. The manifestation at the onset of the disease is short dry cough, most troublesome on rising in the morning. Fatigue on slight exertion and difficulty in ascending stair case is generally marked. The expectoration of mucus takes place or more generally bright coloured frothy blood with mucus comes out per mouth with cough.

Almost invariably spitting of blood is found in phthisical patient with sensible rise of evening temperature and rapidity of Pulse.

In the second stage, expectoration increases and becomes yellow in colour. The expectorated cough forms in globular mass which floats in water and at times streaks of blood are noticed. Fever comes on at night with profuse night sweat. Flesh and strength gradually diminish although the patient may not complain of impaired digestion. There is disliking for fatty food with complaints of sharp cutting pains in the chest. The patient afterwards loses voice and diarrhoea sets in indicating the spread of the disease to throat and bowels. Ultimately the patient dies from exhaustion or from a hæmorrhage of blood vessels when larger quantity of blood of bright red colour is brought out per mouth. This bleeding may occur several times in many cases without causing death. Even in the last stage of the disease the patient is hopeful of recovery and gets irritated at the slightest suggestion foretelling danger to his life. Death usually happens of heart failure.

*History* :—The disease Yakshma or tuberculosis was unknown to Western System of Treatment before 800 A.D. ; but on a



reference to Rig Veda it would be found that consumption was dealt with exhaustively in the treatise in the Vedic Yuga. Rig Veda is estimated to have been written some 10,000 years before the birth of Christ. This goes to show that the disease was known to the Ancients long before Dr. Klench and Koch came upon the discovery in respect of Tuberculosis and the so called infective or causative Bacilli of Tuberculosis.

Here I would refer my readers to the opinions of the eminent medical journals only to establish my point in respect to the infective Bacilli as the same would be amusing to read.

The Indian Medical Record, which is one of the organs of the Western System of Treatment, in its March 1919 issue, writes : "There are, indeed, more quacks inside the medical profession than outside and the former are much more dangerous." While the Journal of Ayurveda in its October 1928 issue observes : Microbe hunting is a serious medical task and is fast becoming discredited with the advent of Edocrinology and Bio-Chemistry. The false trial started is being recognised at its real worth. Last week the germ seekers received a distinct shock, for Dr. Baker, the well-known surgeon, in his work on Cancer directed a vigorous frontal attack on them. He maintains that failure of the Cancer research is one of the greatest scandals of the modern times for it is mainly directed to the discovery of the illusive Microbes etc., etc."

"The exponents of Bacterial theory assert that germs are the cause of diseases but there are instances where similar germs have produced different effects in different individuals. The exponents would then naturally bring forth the theory of 'Natural Immunity.' On the other hand Endocrinologist would attribute it to the efficiency or deficiency of Endocrine secretion. Does not the latter give a lie direct to the Bacterial theory?"

Ayurveda conceived that aggravated, attenuated or vitiated *doshas* interfere with the circulatory system of the body and cause stagnation of these in some particular part of body due to some causal agent which is called *Sanchayam*. The stagnated Doshas then get swollen or excited (*prokopam*). Then again the excited Doshas spread to the site of the disease (*prasaranam*). Thus having spread over the human system they are localised in a particular spot (*Sthanasanchayam*) and begin to manifest through organs and sensations (*Purbarupam* or *Prodome*) and when fully developed clinical features are noted (*Rupam*) and then only



in the Rupam stage of the disease the exact transformation of Dhatus, Malas, Idiosyncrasis and the so called Bacteria (Krimi) are marked. We are therefore to remove the cause first, that is, the derangement of particular *Dosha* or *Doshas* in combination is to be treated energetically so that Vayu, Pitta and Kapha (*Doshatraya*) may be in harmony with one another which once went out of equilibrium and failed to keep the *Dhatus* and *Malas*, etc. in normal state.

This view of Ayurveda could be supported from the writing of Dr. Nalini Ranjan Sengupta, M.D., one of the eminent physicians of repute of Calcutta which was published in the July 1925 issue of the Indian Medical Record which runs as under : "Tuberculosis is a disease due to faulty endocrine function characterised amongst others by fever, anaemia, loss of weight and excessive loss of Calcium from the system. The advent of the Tubercle Bacilli into the system and of the Bacteria early or late in the course of the process and the location determines the nature and subsequent course of the disease. To my mind, nothing is more absurd than to ascribe all the ills that the flesh is heir to to a thoroughly extraneous factor like the Bacteria. The idea that the Bacteria alone can cause diseases is essentially so illogical that it is surprising how it could find such general acceptance. It is admitted that Bacteria are normally almost universal and that many of them, the colon Bacilli for example, are even necessary, nay essential to the process of digestion, absorption and assimilation. Yet what under altered circumstances these same Bacteria generate toxin and produce symptoms, the circumstances are ignored and the Bacteria are held to have caused the disease."

He further adds that intestinal organisms are perfectly harmless in health and non-toxic in nature but these harmless bodies only in combination of circumstances become weapons of death. When the people are in health, these Bacilli form a part of healthy human system and it is only when the health is broken down due to over or under feeding or over exertion, the Bacteria can cause disease. Correctly speaking, therefore, the Bacteria is not Pathogenetic Bacteria that cause diseases but it is the break down of health that makes Bacteria pathogenetic.

From the above observation of Dr. Sengupta it is seen that efficiency or deficiency of Endocrine system are chiefly responsible for allowing the so called infectious Bacteria to cause disease.



The principle of Ayurveda as published by Dr. A. T. Roy in the Journal of Ayurveda established the Vayu System as identical with the Endocrine Theory of the modern time and so the efficiency and defficiency of Endocrine product as stated by Dr. Nalini Ranjan Sengupta is in consistency with the Ayurvedic System of findings according to which the diseases are the resultant of derangement of Vayu, Pitta and Kapha (Doshatrayas) singly or in combination with one another.

"Ayurveda discovered the germ (Krimi) diseases more than 10000 years ago yet they had the common sense not to call them the only cause of diseases. Ayurveda conceived the Bacteria only as a condition. Bacteria used in a suitable condition, field or soil for culture would do well but not otherwise. In short, Tridosha theory of Ayurveda is not opposed to germ theory."

Vide Chapter V. Sushruta Nidanasthanam.

Medical students know how much time is devoted to diagnosis and how little time to therapeutics. Tuberculosis could be readily diagnosed. Patients do not want diagnosis but cure. Since the theory of Dr. Koch in regard to Tubercular Bacilli, the diagnosis of the disease is said to have become easy but its cure is far remote even now as it was before the days of Koch.

Ayurveda is a branch of Vedas and is called an Upaveda. Charaka Samhita is an authoritative Upaveda and there we find consumption masterfully dealt with. The disease is infective according to the theory of Dr. Turbani who also established the susceptibility of the disease to hereditary diathesis. The theory was incorporated into the modern system of treatment some time in 1865 A.D., whereas it would be seen on perusal of the following couplet of Ayurveda that the infectious nature of the disease was fully known to the students of Ayurveda thousands of years before the Modern System came by their discovery of the infectious diseases.

Ayurveda says—

“प्रसङ्गाद् गावामप्यर्शात् निःश्यासान् सहभोजनात्

एकशय्यासनाच्चैव वस्त्रमात्यानुलेपनात्

कुष्ठञ्च ज्वरञ्च शोथञ्च नेत्राभिष्यन्द एव च।

श्वीपसर्गिक रोगश्च संक्रामान्ति नरान्नरम्॥

In Ayurveda we find the manifestation to tally with *Sosa-Roga* (शोथरोग)



This Sosa-Roga (Tuberculosis) Ayurveda attributes to four causes : (1) Over-exertion, (2) Disobedience to calls of nature, (3) Over-exhaustion wrought about by excessive co habitation or self abuse or fasting, (4) Error or irregularity of dietary.\* All the three Doshas viz. Vayu, Pitta and Kapha are usually deranged.

The modern System of Treatment in diagnosing the disease would not trouble themselves to investigate further into the matter in case the microscopical examination reveals the presence of Tubercular Bacilli. Here Ayurveda subdivides the disease into three groups : (1) Raja-Yakshma, (2) Uraksha and (3) Kshin.

Raja-Yakshma corresponds to the galloping phthisis, and the deranged Doshatrayas interfere with the normal process of activity of cells, nerves, tissues, flesh, blood, marrow etc. supplying nutrition to human being and as a result of that deficient nutrition, body becomes weaker and weaker foretelling imminent danger. In short, loss of vitality is the main factor attributable to Raja-Yakshma (Galloping Phthisis).

Phthisis may follow a sudden grief or mental worries. Now days almost every household is subject to various sorts of miseries and griefs or mental worry for some reason or other and the prevalence of the disease could well be attributed to physical or mental distress of the day.

2. Uraksha variety of Phthisis is caused by over-swimming, over-walking, over-riding, over-reading, over-exertion or a fall from a considerable height.

3. Kshin variety of Phthisis corresponds to abdominal T. B. and is a resultant of over-indulgence of sexual intercourse and overeating or insufficient dietary. Excessive sexual relation weakens the nervous system, induces premature decay, wrecks the human organs and eats up the vitality by inches. The patient gradually becomes weak, lean and thin from day to day.

Now let us study the present condition of the country to find out how the environment plays havoc among the human race.

It has been shown above that Phthisis is mainly a resultant of excessive loss of semen. Our experience shows that Bramha-charya (self Control) is a thing of the past. There is no moral teaching imparted to our youths so as to enable them to fortify their character, the key to health, wealth and prosperity. Self-abuse and unnatural processes to satisfy lust are of too frequent nature with the cultural society and this vile habit involuntarily leads our youth to nocturnal emission, nay even to diurnal,



emission resulting ultimately in an attack of the fearful fell disease of consumption. There should be an attempt from all right thinking men to educate the youth on the line of morality and to impress upon them, the future hope of nation, the necessity of self control and future sequelae of abuses in youth.

The country is now a days, flooded with lascivious literature and novels and no honest person questions the veracity of the statement. Young men, the medical science says, possess soft brain and the reading of these trash literatures and novels makes a deep impression on their thoughtful young brain and causes a considerable mischief demoralizing their mental faculty. There is an adage, "Pen is mightier than sword" the proverb is true to the hilt but the novelists of the present day seem to have either forgotten the underlying principle of the proverb out of their own selfish motive or bent upon to bring ruin upon the youth, nay even to the society they live in, by their forceful painting of male and female characters which is indeed one of the most damaging factor to excite passion and cause nervous excitability in both male and female sexes. Over excitability of the nervous system would involuntarily bring in untold mischief to health and mind and lead the youth and the society, nay even the nation, to the clutches of Phthisis.

There should therefore be an honest move in right earnest from every corner of the country to change the trend of thought of the present day novels and literature to improve the mentality of the youth, society and nation that have become degenerated and demoralized because of the mischievous writings.

Thus it is observed that the third cause in respect to this fell disease, *i.e.* lack of self-control plays a very important role in Phthisis.

Uraksha type of Phthisis is caused by error in diet, injudicious or untimely. We note in the dietary, as described in Ayurveda, that one must not take his meal before first part of the day (Prathama Prahara). But now a days all business places and institutions, such as schools, Colleges, Offices, Courts, Banks Mercantile firms etc. open for carrying on their business before midday and people are to finish their midday meal long before its proper time to attend to their business and allow themselves to run the risk of being attacked with the fell disease. This has become unavoidable in order to earn bread to live upon. There is another practice of condemnation from social point of view.



The people when invited to attend a ceremonial dinner, generally overload their stomach impairing the *Pachakagni* (Digestive function). The derangement of the *Pachakagni* invariably gives rise to dyspepsia and deprives them to assimilate properly the food they take resulting in mal-nutrition which weakens the frame and paves the way to Phthisis.

The mal-nutrition is also attributable to low dietary. The average income of our people is much below *par* which hardly works to 18 pies and with this poor income one cannot adequately feed and clothe oneself and under this financial plight people cannot but become easy prey to this fearful disease. It is an irony of fate with the Indian populace.

The modern system of Treatment asserts that the meat eating is one of the causes of the disease but Ayurveda says that eating of goat's meat is beneficial to health and specially to tubercular patients and that is why Ayurvedists very often advise goat's milk, goat's ghee, goat's meat with zinger for men of tubercular diathesis, nay Ayurvedists even enjoin upon the consumptives to keep constant company with goats as the goat possesses special virtue to kill the germs of Tuberculosis. Experience shows that goat only among the animals is immune to Tuberculosis.

The Sanskrit couplet in Ayurveda runs as under :—

कागमांसं पयश्कागं कागंसपि सनागरम्

कागोपसेवी शयनं कागसंयुतं यच्छनुत् ।

In our practice we note that youth are the worst sufferers and are more liable to tuberculosis than the aged persons. In this article it has been shown above that loss of semen and irregular and low diet are the chief factors of Phthisis. In youth, curiosities and passion are more predominant and they pacify their passions in unnatural process and satisfy their curiosities by curtailing their dietary expenses. Further, the disease is more prevalent in the town than in the villages, the cause, the writer thinks, is that village youths have less curiosities to spend money on Shows and Cinemas, Foot Balls, Theatres etc. than the town youths who usually find money from their monthly dietary they receive from their guardians and that is one of the reasons for the town youths of becoming larger victims than their brethren in villages. Besides in towns on account of mills and work-shops the atmosphere is surcharged with gas and smoke and the air is vitiated and fresh and unadulterated dietary, which is absolutely necessary to supply



nutrition to human organs, are not available or not within the reach of average people. Consequently town youths do not get sufficient oxygen to purify the impurities of blood for healthy growth of human system nor do they get abundant supply of fresh edibles to liquidate the required nourishing substances to their system as their brethren in villages do. Naturally, therefore, they are the worst sufferers from the disease.

Tea stalls and Restaurants, betel chewing and spitting habits help the spread of the disease far and wide in the country. The way in which the tea stalls and restaurants are run is most insanitary and sickening to see for oneself the way in which the cups and the utensils are washed in a bucketful of water throughout the day and the writer thinks, this practice is criminal and should be put a stop to by legislation if possible.

In phthisis Allopaths are now a days administering preparations of gold but the administration of gold to consumptives were known to the Ayurvedists thousands of years ago and the way it is employed in combination with other ingredients by Ayurvedists is found more efficacious than the method of present day administration of gold per hypodermic syringe.

I now turn to treatment of Phthisis and this portion I would finish with only the medicines that have been tried in my practice and stood the test.

In Sosa-raga (Tuberculosis) the fever should be attended to first and then the complications as per injunction of Ayurveda given in the couplet below :—

उपद्रवा ज्वराद्यान्ते साध्याः स्त्रीः चिकित्सकैः ।

तेषु शान्तेषु रोगेषु पञ्चाक्षीषमुपाचयेत् ॥

If the fever persists, the patient must not be allowed to take Ghee or Oil, as their administration would aggravate the troubles. During fever, the Jayamangala Rasa should be given once in the morning with honey and Vasaka root decoction.

Recipes of Jayamangala Rasa :—

“हिङ्गुलं सन्धवं सूतं गन्धकं टङ्गनं तथा । ताम्रं वङ्गं माञ्जिकञ्च सैन्धवं मरिचं तथा । समं सर्वं समाहृत्य द्विगुणं स्वर्णभस्मकम् । तद्वर्जं कान्तलीहञ्च रौप्यभस्मापि तत्समम् ॥ एतत् सर्वं विचूर्नाय भावयेत् कनकद्रव्यैः शिफालीदलजैश्चापि दशमूष रसेन च ॥ किराततिलक क्वाथे स्निग्धवारं भावयेत् सुधीः । भावयित्वा ततः कार्थ्या गुञ्जद्वय मित्तावटी ॥”



Purified Hingul (Sulphurate of Mercury)	}	Take $\frac{1}{2}$ Tola of each of the ingredients
„ Sulphur		
„ Borax		
Reduced Copper (Cuprum)		
Black Pepper		
Reduced Tin (Vanga) (Stannum)		
Purified Swarnamakshika (Ferri Sulphuretum)	}	1 Tola
Saindhab (Rock Salt)		
Reduced Gold (Aurum)		
„ Iron (Ferrum)		$\frac{1}{2}$ Tola
„ Silver (Argentum)		$\frac{1}{2}$ Tola

Mix well the above recipes ; put in a mortar ; apply Juice of Dhutura (Dhatura Fastuasa), Sephalika leaf juice, decoction of Dasamula and decoction of Chireta (Chirayta) in serial order when the juice of the one would be nicely absorbed the other should be put in rotation. The process of giving juice to the mass should be repeated thrice in serial order described above.

Now I would describe in brief the Therapeutic action of the ingredients one by one.

Hingula—Tridosahara—Equilibrates Vayu, Pitta and Kapha.  
Sulphur—Kaphagna—Equilibrates Kapha and Vayu.

Borax—Kaphaghna and Appetiser—Equilibrates Kapha and stimulates digestive function.

Copper—Kapha and Pittaghna—Equilibrates Kapha and Pitta.

Vanga—Pustibardhaka and Tridoshaghna—Nourishing and strengthening and equaminates Doshatraya.

Swarnamakshika—Tridoshaghna Equilibrates Vayu, Pitta and Kapha.

Blak pepper—Vayu and Slesmanasaka—Equilibrates Vayu and Slesma.

Gold—Vayu and Pittaprasamaka, Sthapaka—Equaminates Vayu, Pitta and Kapha and prevents decay.

Silver—Vayu and Pittanasaka—Removes derangement of Vayu and Pitta.

Dhutura Leaf Juice—Febrifuge (Jwaraghna).

Sephalika juice—(Jwaraghna)—Invaluable in pernicious fever and Febrifuge.

Dasamula—Febrifuge and is useful in Vata and Slesma types of fever.



Chireta—Febrifuge. It is indicated in fever, Dyspepsia, Cough, hæmoptysis, burning sensation, Dropsy, worms, impurities of blood, thirst and to regulate the digestive function.

From the above recipes it would be seen that Joyamangala Rasa is a deep acting remedy for pernicious (Majjagata) fever and in fever with rapid decay. Therefore it is of invaluable efficacy in phthisis.

Sarbangasundara Rasa—is another head remedy for phthisis and wasting diseases attended with evening rise of slow fever and should be given with a suitable vehicle according to the condition of the patient with considerable success to arrest slow fever and rapid imaciation and decay along with Jayamangala Rasa. It is usually given with honey and pulverized Long Pepper or honey and clarified butter and Long Pepper and in copious hæmorrhage per mouth with honey and Ayapana Leaf juice. It is also administered with honey and betel or Zinger juice when there is profuse mucous expectoration. This preparation contains Calcium Salt and replaces Calcium Salts lost in the system and when administered with a suitable adjuvant would utilize and retain Calcium contents of the preparation in human system.

Recipes of Sarbangasundra Rasa is as under :—

रमं गन्धं तुल्यांशौ द्वौ भागौ टङ्कनस्य च । मौक्तिकं विद्रुमं शङ्खभस्मदेयं समाशिकम् ।  
हेमभस्माद्भागश्च सर्वं खल्ले विमर्दयेत् । निम्ब द्रव्येन सपिण्ड पिण्डिका कारयेद्भिषक् पश्चात् गजपुटं  
दत्त्वा सुशीतञ्च समुद्धरित् हेमभस्मसमं तीक्ष्णं द्रवदन्तम् । एकौकृत्य समस्तानि सूक्ष्माचूर्णानि  
कारयेत् ततः पूजाः प्रकुर्वीत रसस्य दिवसे शुभे । सर्वाङ्ग सुन्दरो होय राजयक्ष्मनिहन्तरी । वात  
पित्तज्वरे घोरि सन्निपाते सुदारुणे । अर्शे-ग्रहणी-दोषे, मेहे, गुल्मे, भगन्दरे । निहन्ति वातजानरीगाण  
शैषिकांश्च विशेषतः पिप्पली मधुसंयुक्तं घृतयुक्तमथापिवा भक्षयेत् पर्णकान्धेन सितय चाद्रकेन वा ॥

Corrected Mercury	—1 Tola
" Sulphur	—1 Tola
" Borax	—2 Tolas
Reduced Pearl	—½ Tola
" Coral	—½ Tola
" Couch Shell	—½ Tola

Add juice of Lemon q. s. and rub together into paste. The mass then should be burnt in a closed crucible in Gajputa process. When Cool take out the contents and add reduced Iron one Tola and corrected Hingul ½ Tola and mix well in a mortar. Dose 4 grains.



To be given with honey or with clarified butter and pulverized Long pepper or with juice of betel, Sugar or juice of Ginger.

Therapeutic value of its ingrediants is described below :—

Purified Mercury—Tonic, alterative, Antiseptic, purgative, and cholagogue, converts internal fluid and acid into doubt chloride of sodium and passes into blood as oxyalbuminate, promotes waste tissue, stimulates digestion, salivation, nutrition etc., Dr. Hem Chandra Sen, M.D., is of opinion that preparation of Mercury with Gold is of supreme efficacy as an alterative tonic but without Gold it has but quite a different therapeutic action.

„ Sulphur—Antiseptic, disinfectant, paratide, vermifuge promotes gastric juice, stimulates bile flow and purifies blood.

„ Borax—Antiseptic, diuretic, local sedative, promotes appetite and gastric juice.

„ Pearl Vasma (Margarita)—Highly stimulant, Tonic, Laxative, Sedative, Emetic, Nutritive and Antacid (Pittanasaka). It being carbonate or oxide of Lime is indicated in Asthma, phthisis, cough and in slow fever.

„ Sankha Vasma—(Silicate of magnesia), Febrifuge, expectorant, stomachic, carminative, resolvent of phlegm.

„ Gold Vasma (Aurum)—Nervine tonic, aphrodisiac, alterative, diaphoretic, diuretic, promotes flow of kidneys and stimulates activities of the stomach digestion.

„ Hiugula (Sulphuret of mercury)—It is red sulphide of mercury and possesses the virtues of mercury described above.

„ Nimbu Juice—Antiperiodic, vermifuge, stimulant, insecticide, antiseptic stomachic and antifebric.

Jakshari Lauha is a good medicine and its service is called for generally when the slow fever disappears after the use of Jayamangala Rasa and Sarbangasndara Rasa and the patient passes through convalescence stage. I would advise Yakshari Lauha at this stage as an intercurrent medicine with the foregoing medicines the same has given me better results in my practice.



The Recipes of Yakshari Lauha is given below :—

“मधुताप्य विडङ्गाश्च जतुलौहं द्रुतमया  
घ्नान्ति यन्मानसतुष्यं सेव्यमाना हितशिवा ॥”

Take equal quantity of pulverized

Swarnamakshika—( Ferri Sulphuretum )—Tonic, alterative, indicated in Leucorrhœa, anæmia, ascites, anasarca, urinary and eye diseases.

Biranga (Embelia Ribes)—Carminative, anthelmic, stimulant, alterative, cooling, diuretic and laxative.

Shilajatu—Febrifuge, antiperiodic, Antiseptic, paraticide, Tonic, (miduvedaka) Cholagogue, diuretic and dis-infective.

Har (Terminalia Chebula or black myrobalan)—purgative, Astringent, alterative and adjusts Vayu, Pitta and Kapha.

Add Reduced Iron to the Wiegth of all the above four ingredients.

Mix well together in a a mortar and administer in 2 Rati per dose with honey and clarified butter. This prepration invigorates the system and prevents exhaustion.

The therapeutic virtues of its preparation are as under :—

Swarnamakshika—( Ferri Sulphuretum )—Tonic, alterative, indicated in Leucorrhœa, anæmia, ascites, anasarca, urinary and eye diseases.

Biranga (Embelia Ribes)—Vermifuge, anthelmic, carminative, stimulant, alterative cooling, diuretic and laxative.

Shilajatu—Antiseptic, paraticide, anodyne, Tonic, Cholagogue, diuretic, disinfectant, Dr. R. N. Chopra says its virtues are attributable to presence of Benzoic Acid and Benzoates.

Har—(Terminalia Chebula or Black Myrobalan)—Purgative alterative and adjusts Vayu, Pitta and Kapha.

“हरीतकी मनुष्याणां मानेव हितकारिणी । कदाचित् कुप्यते माता नोदरस्था हरीतकी ॥”

I should reproduce the Sankrit cuplet on which Hara has been extolled

श्यामकास प्रसेहाशः कष्ट-शोचोदरक्रिमीन् । वैस्वय्येयहृषीरोग-विषमविषमज्वरान् शुब्धोधाटषाच्छाद्दिं  
हिक्काकण्डूहृदामयान् ॥ कामलां शूलमानाहं प्रीहाच्च यकृत् तथा अश्वरी मूत्रकृच्छ्रं मूत्रबातश्च  
नाशयेत् ॥



Reduced Iron—(Ferrum) Powerful Tonic, alterative, astringent and restorative, improves quality of blood and stimulates the functional activity of all the organs of body and that is the reason why it is extolled as an excellent restorative tonic.

Besides the above drugs we are to requisition the services of Sitapaladi Leha, Eladi Churnam, Talishadya Churnam etc., to stop throat cough and to cope with various other complication of throat.

To stop expectoration of blood in consumption the following recipes would be very useful :—

Pulv. of Arjoon Tree Bark

Add in *Bhavna* process 7 times the juice of Vasaka and get it dried. Dose 12 to 24 grains should be administered with honey and palm sugar candy. This stops the spitting of blood.

*Recipes of Sitapaladi Leham.*

सितोपला तुगाचौरीं पिप्पली बहुलावचः

अक्षतादृङ्गं द्विगुणितं लिङ्घयेत् चौद्रष-पिषाः

चूर्णं प्राशयेदितत् त्रासकासक्षयापहम्

सुप्त शिह्वारोचकिनं भन्दाग्निं पार्श्वशूलनम् ॥

Gurattak (Cinamon) 1 Tola—Carminative, antispasmodic, aromatic, stimulant, antiseptic, and germicide, hæmostatic, vascular and nervine Tonic.

Elach (Large cardamum) 2 Tolas—Powerful aromatic, stimulant, carminative and diuretic.

Long Pepper 4 Tolas—Stimulant, Carminative, alterative, more powerful than Black pepper diuretic, vermifuge and emmenagogue.

Bansalochana (manna of the Bamboo) 8 Tolas—indicated in cough, phthisis, hæmoptysis, anaemia, retention of urine, fever, Tonic and arrests decay.

Sugar 16 Tolas.

Mixed well together and administer with honey and clarified butter or with goat's milk.

*Recipes of Eladi Churnam*

एला पत्रं नागपुष्पं लवङ्गं

भागक्षिषा द्वौच खट्वङ्गु रक्ख

द्राक्षाग्रष्ठी शर्करा पिप्पलीनं

चिलावस्य चौद्रयुक्तं खण्डेस्मात् ॥



Elaich (Large cardamum)	1 Tola
Tejpatra (Coinamomam Tamala or Folia Malabathy)	1 Tola
Nageswar (Mesuaferrea)	1 Tola
Lavanga (Cloves)	1 Tola
Pindi Khejoor (Date palm or Phoenix Montena)	2 Tolas
Draksha (Grapes or Vitis Vinifera)	4 Tolas
Jaisthamadhu (Liquorice Root or Ghycyrrhiza Glabra)	4 Tolas
Long Pepper	4 Tolas
Sugar—	4 Tolas
Add Honey q. s.	

The above should be well rubbed in mortar and made into a mass and should be given in doses of  $\frac{1}{2}$  to 1 Tola per dose twice a day.

Therapeutic action of the recipes is as under :—

Elaich—(Large Cadamum)

Tejpatra—( Coniamomam Tamala ) Carminative, stimulant, diuretic, diaphoretic, lactagogue.

Nageswar—( Cobras saffron ) bitter, aromatic ( fragrant ) stomachic (Agnibardhak) slightly astringent and purgative.

Lavanga—Stomachic, Carminative, aromatic, antispasmodic and local anæsthetic, promotes nutrition, relieves gastric and intestinal pains, spasm and stimulates salivary glands and kidneys.

Pindikhejoor—( Date palm ) sweet, Cooling, antiphlogistic, demulcent and phlegmatic.

Jaistamadhu—(Liquorice root)—Cooling, demulcent, expectorant, diuretic, emmenagogue and gentle Laxative.

Daksha (Grapes)—demulcent, Laxative, refrigerant, diuretic, Tonic, astringent, blood purifier and expectorant, useful in cough, Catarrh, jaundice, hoarseness and diseases of lungs.

Long pepper—(Piper Longum) stimulant, Carminative, alterative, diuretic, vermifuge, emmenagogue (Rajas thapaneeya)

Honey—Laxative, nutritive, demulcent ( cooling ) indicated in cough, asthma, Dyspepsia etc. it is used as vehicle for medicines to assimilate and accelerate their action in system, stimulates peristaltic action and digestion for its fatty acid.



*Recipes of Talisadi Churna*

तालीश पत्रं मरिचं नागरं पिप्पली गुग्गुलु  
 यथोत्तरं भागवद्भालग्रे चार्द्धं भागिके  
 पिप्लवृष्ट गुणा चात्र प्रदीया सितं शर्करा ॥

Talispatra —1 Tola (Pinus Webbiana)

Black pepper —2 „ Acrid, pungent, hot, carminative, antiperiodic, antipyretic, resolvent. Its action on mucous membrane is like cubebs.

Zinger —3 „ Aromatic, carminative, stomachic, digestive, sialagogue (Lalabardhaka).

Long Pepper —4 „ Stimulant, carminative, Rajathapaka, (emmenagogue) Vermifuge, alterative.

Bansalochan —5 „ Antispasmodic, astringent, Tonic, alterative, promotes digestion, useful in phthisis, asthma and consumption.

Darchini — $\frac{1}{2}$  „ Astringent, stimulant and curminative.

Small Elachi — $\frac{1}{2}$  „ Powerful aromatic (sugandhidrabhya) stimulant, carminative (deepaniya), and diuretic (mutrabirechanyam).

Mix well together and administer in one to two annas doses twice a day with a suitable adjuvants to remove the tinkling sensation of throat, nausea, difficulty in breathing and pain in the chest.

Karpuradya Churna should be used when there is burning sensation, difficulty in breathing, vomiting or nausea, choking sensation in the larynx or hoarseness of voice with advantage.

*Recipes of Karpuradya Churna*

कर्पूरचोच कक्षोल जाती फलदलासनाः

लवङ्ग मांसी-मरिच कृष्णाशुण्ठी विवर्द्धिताः

चूर्णं सितासमं हृद्यं सदाचियं कासजित्

दैर्घ्यं पीनसं श्वासच्छार्दिकण्डा मायापहम् ।

प्रयुक्तश्चात्रपानेर्वा भोज्यविषां हितम् ॥

Karpura (Camphor)

—1 Tola

Pulv. Darchini (Cardamom)

—1 „

„ Kankla

—1 „

„ Jaiphal (Nutmeg)

—1 „

„ Jaitri (Myristica Fragrum)

—1 „



Pulv. Labanga (Cloves)	—2 Tolas
„ Jatamansi (Nordastachye or Spinkenard)	—3 „
„ Black pepper	—4 „
„ Long pepper	—5 „
„ Zinger	—6 „
Add Sugar	—25 „

Mix the pulv well together and advise to take in doses of 24 to 48 grains with food or drink twice or thrice a day till the trouble disappears.

Therapeutic action of the recipes is as under :—

Karpura—Diaphoretic, stimulant, antiseptic, antispasmodic, expectorant, sedative. and aphrodisiac.

Darchini—Astringent (Dharaka) stimulant, Carminative (Dipaniya).

Kankala—काङ्गोलं लघु, तीक्ष्णं तिक्तं हृद्यं रुचिप्रदम् ।

अस्य दीर्गम्यहृद्दोग ककुवातामयान्यानुम् ॥

Aromatic, astringent, Stimulant and heart tonic.

Jaiphal—(Nutmeg) aromatic, Stimulant, Carminative, aphrodisiac, digestive, and Tonic.

Jaitri—(Myastica Fragrans) Aromatic, Tonic, Nervine Stimulant, Carminative, Antispasmodic, diuretic, emmenagogue (Rajasthapaka), Sedative.

Lavanga—(Cloves) Stomachic, Carminative, Aromatic, Antispasmodic, anti-emetic, anaesthetic (Local) nutritive, relieves Gastric and intestinal pains and Spasms and promotes salivation.

Jatamansi—(Spinkenard or Nordastachyo) Aromatic, Tonic, Nervine Tonic, Carminative, Antispasmodic, diuretic, Rajasthapaka (emmenagogue) and Sedative.

Black Pepper—Acrid (pungent), hot, carminative, antiperiodic, antipyretic, resolvent (absorves inflammation) expectorants and highly useful in catarrhal complaints.

Long Pepper—Stimulant, Rajasthapaka (Emmenagogue) Carminative, Alterative, germicide and vermifuge (Krimigna).

Zinger—Aromatic, Carminative, Stomachic, digestive, sialagogue (Lalabardhaka), promotes Secretion of Salivary glands and Slesmanasaka.

(To be continued.)



## THE ARYAN EMBRYOLOGY

By

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*( Continued from our September issue )*

The four factors of conception viz Ritu, Kshetra, Ambu and Bija and their respective effects upon the developing foetus have been dealt with in brief. Now let us diverge our vision in the direction of the rules and regimen that should be observed by a husband and wife who wish to be called parents. Though the topic relating to the observance of such rules and regimen is out of the way of our subject viz. embryology, such rules and regimen, having been believed by the ancient Hindu doctors to have some important influence upon the development, nature etc. of the would-be-concieved child, has been here annexed.

Sukra and Artava are subject to vitiation by the action of the Correction of Sukra doshas viz. Vayu, Pitta and Kapham either and artava. by one or by any two or simultaneously by three and also by blood. Therefore those who are desirous of begetting healthy children should at the outset correct their respective principles viz. Sukra of man and Artava of woman if they had already been so deranged before they engage themselves in the act of procreation with the respective remedials as enjoined in the medical scriptures. One will utterly be surprised who is unawave of the treasures of the Aryan Literature to find in them the ancient Rishies while mentioning certain drug remedials in respect to the correction of such vitiated principles of Sukra and

Postural treatment Artava, also mention certain special treatments for sterility. for the cure of sterility due as a sequence of disparity of age, of defects in the generative apparatus of the one or the other or of both, etc. For such causes of sterility, remedial measures have in "The Doctrines of Love" of Hindus been described among which special stress has been laid on posture for the performance of the sexual act which was recognised to have a great effect upon the female pelvic organs that facilitate impregnation.

Influence of position upon the doshas. In connection with this, Charaka says that should a woman be impregnated in a posture lying with her face downwards, there being a tendency for her



bodily Vayu to become more powerful in that position, her geritalia are aggravated by it and should she be engaged lying on her left lateral side, her bodily Pitta will be provoked which burns away the seed and should she be enjoyed in a position lying on her right lateral side her bodily Kapham, becoming aggravated, obstructs her uterine orifices (viz. the os externum and the orifices of the uterine tubes) either for the entrance of spermatozoa into the uterus or for the entrance of ovum into the same and hence he condemns these positions for fruitful coitus and recommends the lithotomic position in which he says all the Doshas remain in a state of equilibrium.

After correcting their principles, the husband and wife should forswear the company of each other for a period of one month prior to the day of the ensuing menstrual period of the woman when on the fourth day of her period of uncleanness she should lubricate her body with oil and after purifying herself should indulge in food comprising largely of oil, masha pulse (*Phaseolus Radiatus*) and should then meet her husband who also in turn should on that day smear and anoint his organism with ghee and partake of such diet as is composed of boiled salirice (*Oryza Sativa*), milk and clarified butter both at noon and night and then visit the bed of his wife. Then after the recitation of the appropriate recitals in connection with progeny and awakening confidence in her, he should engage her in the act of coition during any night of her Ritu or Garbhakala and should for the remaining days in that month avoid from such act, as coitus on those days is believed to be fruitless.

The conduct of a woman during her period of menstruation was held by the ancient Rishies to have certain effects upon the development and nature of the child she conceives after that period which may seem quite mythical to a now-a-day embryologist.

Influence of the conduct of a woman during the menstrual period upon the nature of the would-be conceived child.

A woman during her menstrual period is injuncted to forego the bed of her husband for reasons which have already been stated (under the topic of the influence of Ritu on the foetus) and even asked to forswear the sight of him. She should avoid day sleep during that period for the reason that the child of the subsequent conception is considered to be of a drowsy and sleepy nature. Along her eye lids she should not apply collyrium, as it makes the child blind. She should not shed tears as such action causes to the would-



be child a defective eye sight. She should not bathe nor apply pastes of sandal, etc. to her body as such application is believed to make the child miserable. She should not anoint her person, as it destines the child to be a leper. She must not pare her nails as so doing was held that the child would be born with bad nails. A woman who runs during her monthly period gives birth to a restless child and she who indulges in excessive laughter brings to her bed of a child whose teeth or palate or tongue would be of brown colour. By excessive talking of a woman during her period of uneasiness she conceives a child who would be of a talkative nature or of an incoherent speech. She should not hear loud voices as the child becomes deaf, nor should she comb her hairs as the child would be bald-headed. She should avoid exposing herself to wind and fatiguing exercises for the reasons that the child becomes insane. She is ordained to lie on a mattress made out of kusa grass (*poa cynosuroides*) on the floor and to take her food from her two palms folded together or from saucers made out of earth or leaves, living only on Havishya diet (this is a course of food composed of Ghritha etc. which is prescribed in the Smrities).

On the fourth day after taking the ceremonial ablution, she should dress her body with new and untorn clothes and after duly ornamenting should see first none but her husband after uttering the words of benediction, as it was supposed that the child she conceives after that period resembles the man whom she sees first after her bath on the fourth day. (It is customary among Hindu ladies to see the sun on such occasions when their husbands are absent from home). After that the priest will perform the usual rites of conception in a place on the North East corner of the house gently inclined towards the east or the north where an altar is constructed, by the western side of which he has to sit on a pad made of untorn cloth over which is spread either the skin of a bullock, or of a tiger, or of a deer according to the caste of the householder by whom he is employed. Then the couple sitting on the right side of the priest, the wife should utter her wish for a son of high merits. After this, Prajapati (Brahman) is invoked with the aid of *mantras* who is prayed to inspire the genitalia of the woman with the capacity of conceiving such a desired offspring. After the completion of these rites, she should circumambulate the fire with her right foot moving first. After the utterance of the benedictions by the Brahmins, she should drink the

Conduct of the couple  
before association con-  
tinued.



remnants of ghee which her husband had partaken first which is the remains of the ghee that has been sanctified previously. After the observance of discipline already indicated, the couple should associate together surrounded by environments of a colour accordant with the colour of the son desired. And many such instructions as hearing the benedictions corresponding to the nature of children desired, and adopting the food, dress, practices etc. of those countries after the manner of children which they desire etc. have been laid down with the belief that such rites and practices would fructify their wishes in begetting children of desirable attributes. The conduct and character of the child is held to be determined by the conduct and character and inclinations of the parents during the course of sexual embrace, so that they are ordained to associate with joyful minds with the hairs on their bodies erect. When the Sukra of the man has been deposited into her womb, the woman should draw up her Apana Vayu into her uterus which aids the quick entrance of Sukra into her uterine cavity.

The vedic rites by which the sex of the child in the uterus many be changed before the manifestation of the specific sex and many medicines by which one may produce a desirable fruit have been laid down under the name of *pumsavana* rites and medicines respectively. It is advised that after a woman has

Influence of certain  
vedic rites and medi-  
cines upon the sex of the  
foetus.

been impregnated in any day during her ritukala that three or four drops of expressed juice of either *Lakshmana*; *Vata Lunga*, *Sahadeva* or *Visvadeva* should be put into her right nostril taking care that it is not spitted away for the establishment of conception of a male child and in the left nostril for a female child. Charaká gives some more drugs, the dynamical action of which ensures the preservation of the conception from injuries that tend to destroy it along with the treatments that should be observed month by month for the growth of the embryo without obstruction of any kind. The practices mentioned concerning the change of sex in the uterus may seem to be ridiculous, but may be possible by the inherent potency of the drugs, the experimentation and confirmation of the possibility or otherwise is an important portion of research and investigation to modern embryologist. The question naturally arises when once the two principles, Sukra and Artava, have associated together in certain proportions, as for instance Artava in greater and Sukra in less, the result should be, as per



the theories of Ayurveda, a female child, can it be made vice versa by the observances of such said practices? Charaka opines that till the second month of gestation, the foetus will be in a condition of sexless nature and then assumes the features of either a *pinda*, *pesi* or *arbuda* according to the nature of the sex as the male, female and neuter respectively. Though the drugs may not be able to change the proportions of the two principles in the combined cell (mass), yet it may be probable and possible too for them that by their chief inherent property of *prabhava* to make either Sukra dominant over Artava or Artava over Sukra as the case may be, strengthening the one and weakening the other in respect of vitality and thus may bring about a change in the manifestation of sex in the early development of foetus.

From the time of conception being established, the phenomenon is indicated in the organism of the woman with certain mental and physical signs which are popularly known as the signs and symptoms of pregnancy, the description of which falls away from our subject into the field of midwifery, the twin science of embryology. Though generally the signs and symptoms of pregnancy are the same for both the sexes of the child, Ayurveda makes mention of different signs and symptoms with difference to the sex of the foetus. A male child in the womb causes its mother's right breast to secrete milk earlier than its companion, the left, and tends her to use her right leg first at the time of locomotion. Her right eye looks larger than the other and she desires largely for articles of masculine denomination and during sleep dreams of having received flowers of masculine names as *Lotus*, *Utpala*, *Kumuda*, *Anrataka*, etc. and her glow becomes brighter. The contrariety of these indications is manifested by a child of the opposite sex and a mixed indications of them together with the bulging of the flanks of her abdomen is an indication to the sexless nature of the foetus. Charaka adds that the mother holds the foetus on her left side if it be of a female sex and on her right if it belongs to the male sex.

The nature of the child is suggested by the longings of the mother during the period of gestation which are none other than the longings of the baby inside. A pregnant woman is termed as *Douhridaya* or a double hearted. As soon as the heart is completely formed in the foetus, the child is endowed with consciousness and from that time the child expresses its likes

The nature of the child as suggested by the longings of the pregnant woman.



and dislikes for articles of tastes etc. through the medium of its mother which are determined by the nature of acts and their subsequent effects upon the child in its previous birth and hence it is specially advised to gratify a woman during that period with everything she may conceive a liking towards for the reason that if her wishes are not gratified, there is every probability of the child becoming deformed and defective in various ways as paralysed, hump backed, lame armed, dwarf, etc. and a non fulfilment of any sensual enjoyment as desired by her is believed to affect painfully that particular organ of sense of the child the enjoyment of which the mother requires. Such an importance is given to the fulfilment of her longings as even it is said that if she ardently desires for anything that is harmful, it should be given her, along with certain neutralising agents since, if such an ardent desire is restrained, Vayu, becoming aggravated, travels through the inner parts of her body causing either destruction or diverse deformities of the child and its limbs.

The following are some of the such longings of the mother indicative of the nature of the child inside. If a pregnant woman longs for a royal interview, it signifies that the child in her womb will be destined to be rich and command a high position in life. Her desire for fine clothes and jewels suggests that her child will be of æsthetic nature. Her liking to visit a hermitage is indicative of the child that it will be of a pious nature. If she desires to pay a visit to any divine idol, it presupposes that the child in her womb would adorn a great assembly. The savage and cruel temperament of the child is signified by her desire to see any savage beast. A desire for the beef indicates the birth of a strong child. A longing to taste buffalo's meat is suggestive of a hairy, valiant and red eyed nature of the child and for a boar's flesh signifies the birth of a drowsy child though valiant; while a liking for a venison indicates an energetic and a determined child. A desire towards the taste of Srimira meat suggests the distracted character of the child and a longing towards the meat of a tittira bird is indicative of the timid temperament of the child. In short, a desire on the part of a pregnant woman for any article, for the flesh of any bird or beast, indicates that the child will have the nature and qualities of that particular thing, bird or animal.

*(To be continued).*



# GYNÆCOLOGY, OBSTETRICS, AND PEDIATRICS OF THE AYURVEDISTS

BY

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## FOREWORD.

*Agnivesha*, the founder of the Charaka school of thought, asks his preceptor *Atreya*,—"Women are the main source of happiness of man, and of man's progeny; since women are destroyed by various Disorders of the Generative Organs, I would like to learn the ætiology, symptomatology, and therapeutics of these disorders." Several centuries later, *Vagbhata* repeated the above exhortation in stronger terms imploring his medical confreres to—"Preserve women at any cost from incurable diseases; they are the source of children; of the four periods in life, the Married Period is, after all, the most important"—an exhortation which may well bear repetition this day if the study of Obstetrics and Gynæcology has to be salved from the neglect and obscure position to which it has been relegated by the Ayurvedists.

This want of attention and of the intensive study of these two subjects may partly be due to the inferior position allotted to women and to the small demand for medical and surgical relief from the lay public. It may also be due to the absence of startling results and to the risk to which the mother and her baby are exposed. While in other branches of medicine and surgery a host of specialists, each more renowned than the other, came forward to exhibit their skill and write exclusive Treatises, Obstetrics and Gynæcology,—especially Obstetrics—were handed over to women specialists (the midwives), and no serious attempt appears to have been made to create male Obstetricians and Gynæcologists. *Susha*, *Vishkala*, *Sinivali*, *Gangu*, *Kuhu*, *Saraswati*, *Anumati*, *Savitri* etc. are, among the midwives of Ayurvedic literature, names to conjure with, who by their skill, technique, and success secured a mention of their names in *Atharva-Veda*. Even in *Vagbhata's* time, operative aid, whether manual or instrumental, continued to be rendered by midwives, who did not, however, receive the comprehensive medical and surgical education of an Ayurvedist. Obstetrics is



considered a more adjunct of embryology, anatomy, and physiology ; and the inclusion of Gynæcology in one chapter of the section of Pediatrics illustrates the insignificance with which this subject has been regarded by them. The two subjects form perhaps one of the weakest spots in Ayurvedic literature if the symptomatology, pathology, and operative or medicinal therapy of the diseases are considered. Contrasted with the development of Ophthalmology, it is difficult to imagine the causes which led the Ayurvedists to allow these subjects to fall into neglect.

In the the scheme of life, according to *Agnivesha*, Children stand on a par with the happiness of man ; the information, therefore, about their rearing and their disorders—Pediatrics—justifiably forms one of the eight divisions of Ayurveda.

The opinions about the special diseases of children show such a confused and elementary conception of the *Ætiology*, *Symptomatology* and *Therapy* of these diseases that it is difficult to conceive how *Ravana* (13th century) could, in spite of all the literature available to him, be bold enough to ignore all of it, and give no reason as to why he made such a radical departure from the accepted plan of *Nagarjuna* and *Vagbhata*. *Harita* might well be excused from this criticism if he really belonged to a period anterior to that of *Sushruta* ; if internal evidence is to be a guide, and his work is to be placed in the period after the 10th century A.D., our astonishment is the greater as to the reasons which induced both *Harita* and *Ravana* to take such a decidedly retrograde step in an important subject when all other branches were showing consistent progress. It is curious that *Charaka* and *Dridhabala* had not a word to say about these special diseases.

The authors who make material contributions to the study of the three subjects,—Gynæcology, Obstetrics, and Pediatrics—are *Sushruta*, *Nagarjuna*, *Charaka*, *Dridhabala* and *Vagbhata*. No other medical writer has paid such attention to these subjects as to command the respect of the commentators. Four Treatises on Pediatrics composed by *Jivaka*, *Parvataka Bandhaka* and *Hiranyakshya* are not quoted anywhere, and even these treatises have now been lost to the present generation.

*The Object of the Paper* is primarily to collect the data for the investigation of drugs and treatments with medicinal plants used in Gynæcology and Obstetrics. *Sushruta's* Pharmacopœia was indeed a limited one. In *Dridhabala's* time, we find it elaborate and varied,—a tendency which found favour with *Vagbhata* and



other practitioners of subsequent centuries. For those of us with a Western training, the data have to be classified and interpreted in terms of the Western system of medicine. An endeavour has therefore been made in this paper to arrange the information according to Western conception, and to find out, whenever possible, the Western equivalents of the Ayurvedic terms and diseases.

The subject of Padiatrics is so closely related to that of Obstetrics and is indeed so intricately mixed up with it in the Ayurvedic literature, that it is impossible to resist the temptation to avail oneself of the opportunity of presenting that subject as well, in a manner to which those with Western education are accustomed.

The special diseases of children are attributed to the influence of Malignant Stars and Spirits. Such fatalistic doctrines and, to some extent, the doctrines of heredity raise above the level of controversy a vast amount of ignorance of the causation of disease; add to these the Mantric Ritual of Treatment, and we at once have both the ætiology and therapeutics of these diseases raised to a supernatural plane of respectability which they never desired. Once these rituals are admitted, all investigation is choked up, and the scope of research becomes deliberately limited to the observation of signs and symptoms of disease. I have ignored in this paper the Mantric aspect of all diseases, and limited myself to observations which help to make up medical science in the modern sense of the term.

From the view-point of the ætiology and physiology which the Ayurvedist adopts, three subjects appear to be a brilliant and consistent exposition of the processes involved in the causation of symptoms and the application of therapeutic measures, especially where normal processes or slightly disordered conditions not bordering on disease are concerned. The Humoral Theory is easier to understand in Gynæcology and Obstetrics, as one of the forces, viz., *Vayu*, is so prominently concerned in the causation of a multitude of natural phenomena and disorders discussed in these sections. Embryology, likewise, is entirely based on Ayurvedic conception of Life, Matter, and Force. I consider it necessary, therefore, to introduce this paper with a brief summary of the Humoral or *Tridosha* Theory of Ayurvedists, and make a special reference to that portion of it where *Vayu* is concerned.

Further, there appear to be scattered in the literature so many important observations on the three subjects, which perhaps would not have been the case had the subjects received the attention they deserved in separate sections of their own. Such a comprehensive



collection of the data has not to my knowledge been made so far, and should prove useful to both the ordinary and research students of Ayurveda.

*Identification of the Disorders and Diseases*, discussed in the various sections, has been attempted from signs and symptoms recorded in the literature; the identification can be considered neither exclusive nor exhaustive, and other alternative diagnoses have been given wherever possible. The diagnosis, according to Western conception, is given in brackets and represents the nearest Western equivalent for the terminology of the Ayurvedist. When the word-picture is indefinite and one or more diseases are indicated, an interrogation mark is put in.

*Method of Collecting the Data.*—*Sushruta's Samhita* has been taken in this paper as a basis, on account of its priority and comparative excellence. The ætiology of the disease based on *Tridosha* theory, its location, signs and symptoms, prognosis and treatment, and the nature of manual and instrumental aid when necessary, have been classified. The arrangement and order of diseases and their assignment to particular sections, adopted in this paper, are with reference to their relative affinities, and specific symptoms. Any variations, additions, and explanations, etc. found in the works of other authors of subsequent centuries are given separately under the same disease, and the authority is quoted. Repetition of the same idea from the different authors has been avoided.

Influenced as we are with our Western education and Western methods of research, I have deliberately limited myself to gathering up the written words from Ayurvedic literature and have tried to curb at all times the tendency to look behind the meaning of that written word, and discover ideas which were never meant to be there, whether they be in conformity with or against the views of Western medicine. The contradictory opinions recorded serve to illustrate the necessity of a closer examination of the subjects before any definite conclusions are arrived at.

There are perhaps bad errors of omission in recording my 'Data,' and very likely, worse errors in the translation or interpretation of the same. I would deem it a pleasure if such gaps are filled up, or correct interpretations given by those who are interested in this subject.

In subsequent sections the following abbreviations are used for the author's name:—Adhamal = Ad. ; Bhava-Mishra = Bh. ; Charaka = Ch. ; Dallana = Da. ; Madhavakara = Ma. ; Sharngadhara = Sha. ;



Sushruta = Su. ; Vagbhata = Va. ; Vridha-Vagbhata = V. Va. ; Yoga-Ratnakara = Yoga.

## INTRODUCTION.

### *Historical :—*

The God *Brahma* disclosed to the world the '*Atharva-Veda*' together with the eight branches of Vedic literature and '*Ayurveda*' (the Science of Long Life). *Prajapati Daksha* taught *Ayurveda* to the two *Ashwinis* who in turn passed it on to *Indra*. It was to *Indra*, therefore, that *Bharadvaja* and *Dhanwantari* went for learning *Ayurveda* with its three branches, *Ætiology*, *Symptomatology*, and *Therapeutics*. *Bharadvaja* and his disciples became the exponents of the Practice of Medicine (*Kaya-Chikitsa*) ; *Dhanwantari* and his disciples developed the Practice of Surgery (*Shalya-Tantra*).

*Atreya*, considered by some to be the pupil of *Bharadvaja*, developed the Practice of Medicine (*Kaya-Chikitsa*), and taught the same to six of his pupils,—*Agnivesha*, *Bhela*, *Jatukarna*, *Parashara*, *Harita*, and *Ksharapani*. *Agnivesha* was the most intelligent of them all. Each of them wrote out a treatise on *Ayurveda*; but *Agnivesha's* treatise alone obtained wide cognisance. It was this Treatise that *Charaka* wrote out in a systematic manner. Later, *Dridhabala* added some more portions and brought it up-to-date.

*Dhanwantari*, another pupil of *Indra*, came down to earth to teach men the Practice of Surgery *Shalya-Tantra*, with all its allied branches of study. He taught the same to *Aupadhenava*, *Vaitarana*, *Aurabha*, *Paushkalavata*, *Sushruta*, *Karavirya*, and *Gopurarakshita*. The treatises written by the first five are the bases of those of the last two. *Sushruta's* Treatise alone, redacted later by *Nagarjuna*, has survived to this day ; *Nagarjuna* added *Uttara-Tantra* and other sections to *Sushruta's* work and made the treatise more exhaustive.

Surgery is the oldest branch of the Ayurvedic System of Medicine, since it lent her aid materially towards the healing up of wounds during the wars between the Gods and the Demons, long before the treatments of any physical maladies such as fevers, etc. Surgery, moreover, obtained importance because instantaneous relief can be given with the help of operations, cautery, etc.

*Ayurveda* is divided into eight branches,—(1) The Practice of Surgery (*Shalya-Tantra*), (2) The Practice of Minor Surgery



(*Shalakya-Tantra*), (3) The Practice of Medicine (*Kaya-Chikitsā*), (4) The Study of Diseases due to Demons (*Bhuta-Vidya*), (5) The Management of Infants and Children (*Kaumara-Bhritya*), (6) Toxicology of Animal Poison and Food Toximeas (*Agada-Tantra*), (7) The Science of Rejuvenation (*Rasayana-Tantra*), (8) The Science of Aphrodisiacs (*Vajikarana-Tantra*).

The Practice of Surgery (*Shalya-Tantra*) deals among other subjects with (1) the withdrawing of a dead foetus out of the uterus, (2) the bringing about safe delivery in cases of unnatural presentations, and (3) with the principles and mode of using and handling surgical instruments.

The Practice of Medicine (*Kaya-Chikitsa*) deals with diseases which may gradually invade the Root-Principles of a living human organism and with diseases which affect the entire system.

The Treatise on the Management of Infants and Children (*Kaumara-Bhritya*) deals with (1) the nursing and rearing of infants, (2) the purification and improvement of mother's milk found deficient in any of its characteristic traits, (3) cures for diseases peculiar to the mother's vitiated milk, (4) diseases peculiar to infant life, (5) diseases due to the influence of malignant stars.

For study purposes, however, *Sushruta* discourses on *Ayurveda* under five subdivisions :—(1) *Sutra-Sthana* treats of subjects relating to longevity ; (2) *Nidana*, the *Ætiology* of diseases (Abortions, Abnormal Presentations, Tumours, and Diseases of the Breast) ; (3) *Sharir-Sthana* deals with Anatomy, Physiology, Embryology, Obstetrics, and Gynæcology ; (4) *Chikitsa-Sthana* discusses the Treatments of Diseases (Abortions, Abnormal Presentations, Tumours) ; (5) *Kalpa-Sthana* gives the Treatments of Poisoning. As this classification does not exhaust the study of Medicine, Nagārjuna, the redactor of *Sushruta-Samhita*, added *Uttara-Tantra* in which he included *Kaumara-Tantra* dealing with diseases of Infants and Children due to Malignant Stars ; Nagārjuna includes in *Kaumara-Tantra* portions of Gynæcology as well.

*Charaka* added to the above subdivisions, (1) *Viman-Sthana* which gives detailed information about Physiology ; and (2) *Indriya-Sthana* dealing with the prognosis of longevity. *Kapilabala* and *Dridhabala* finding the *Charaka-Samhita* incomplete in many respects, added 17 more chapters dealing with Gynæcology and Pediatrics to the section *Chikitsa-Sthana*. They also added *Kalpa-Sthana* (General Materia Medica and Pharmacy) and *Siddhi-Sthana* dealing with enemata, etc.



*Vagbhata* (7th Century) had already adopted the subdivisions found in the present day *Sushruta-Samhita*. To him and to *Nagarjuna*, *Dridhabala*, and *Shrikanthadatta* (12th Century) is due the credit of advancing the knowledge of Gynæcology and Pediatrics through successive centuries after *Sushruta* and *Charaka*.

(To be continued.)

## Health and Hygiene

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### A STAGE IN THE THERAPEUTICS OF BALDNESS.

Since several years, the applying of physiological methods in regard to the problem concerning the origin of baldness has met with such successful therapeutical results that it is now possible to presage that this displeasing affection will have entirely disappeared in the near future.

It is known that baldness spares no class of society nor category of persons and does not even wait for the approach of old age, for in preference it makes its appearance between the ages of 25 and 40, and its very gravity is increased in direct proportion to its precocity.

People in general attribute the loss of hair to those who have intellectual occupations, sorrows and worry, or again to those who may have indulged in excesses of various kinds, etc.

In reality, science knows two fundamental causes which give birth to that unsightly ailment known as alopecia. In the first case we are confronted with infectious diseases such as typhoid, typhus, influenza, syphilis etc., but in this case alopecia presents only an ailment which possesses generally a transitory nature, particularly so with young people, in which case the re-growth of the hair lost appears spontaneously of itself, or it takes place after the appropriate application of a special treatment. In the second case, baldness is caused by *Seborrhea*, either acquired or hereditary *Seborrhea*.

The *Alopecia* resulting solely from *Seborrhea* tenaciously resisted every form of therapeutics. Nevertheless, the re-growth of a fine down following upon the ailing roots of the hair, distinctly demonstrates the fact that the pileous follicle was not entirely destroyed.

After many experiments undertaken and covering several years, it was satisfactorily proved that certain products containing *Glycosides* like "*Aseborhal*" are capable of modifying the metabolism of the pileous follicles and which duly allows the regeneration of healthy hair.



Under the influence of these products, *Seborrhea* disappears and is replaced progressively by a re-growth of hair. It is the vegetable products which form the principal ingredients contained in "*Aseborhal-Nador*."

Lesbre, Dr. es-Sciences

Charge d'Etudes au Laboratoire de Chimie Generale de la  
Sorbonne, Paris.

P.S. All communications concerning the above should be addressed to the "Ligue Internationale d'Hygiene" 25, Rue de Tocqueville, Paris XVII\*, France.

## Medical News & Notes

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### JAMINI BHUSAN ASHTANGA AYURBED VIDYALAYA CALCUTTA.

The following students have successfully passed the final Examination (title L.M.S., Visagratna) held this year (1339 B.S.)

- |                                |                                |
|--------------------------------|--------------------------------|
| 1. Haripada Das                | 18. Nalini Kanta Sen           |
| 2. Dharendra Mohan Sen         | 19. Harish Chandra Panda       |
| 3. Kedar Nath Bhattacharya     | 20. Kumudbandhu Guha           |
| 4. Radhika Prasanna Dev        | 21. Birendra Ch. Chakrabarty   |
| 5. Jadugopal Goswami           | 22. Bipin Chandra Das          |
| 6. Premananda Das Sharma       | 23. Bidhu Bhusan Majumdar      |
| 7. Bholanath Mookerjee         | 24. Kunja Behari Majumdar      |
| 8. Upendra Kissore Gupta       | 25. Netaichandra Banerjee      |
| 9. Sasadhar Chakrabarty        | 26. Manindra Nath Majumdar     |
| 10. Annada Prosad Banerjee     | 27. Karunasindhu Goswami       |
| 11. Prokas Chandra Majumdar    | 28. Bankim Chandra Ghatak      |
| 12. Surendra Chandra Choudhuri | 29. Nihar Ranjan Banerjee      |
| 13. Shibsankar Chakrabarty     | 30. Chitta Ranjan Sen Sharma   |
| 14. Surendra Nath Pradhan      | 31. Binoy Kumar Sinha          |
| 15. Sudhindra Nath Mukerjee    | 32. Profulla Chandra Dutta     |
| 16. Birendra Ranjan Das        | 33. Netai Chandra Ghosh        |
| 17. Rajani Kanta Das           | 34. Sachindra Nath Chakrabarty |
|                                | 35. A. Nageswar Rao.           |

### A GOVERNMENT COMMITTEE AGAIN.

It looks as if the Government Committees outside the Legislative Council are constituted by the Government to get artificial approbation to the views of the departmental heads who are usually consulted to recommend to the Government the names of the members to form such



committees. It is natural that the departmental heads choose as their colleagues such men with whom they may have easy sailing. All sorts of devices are in evidence to give such committees a representative character. Such a committee was appointed by the Government to consider the question of revision of rules relating to the appointment of honorary medical officers. This Committee spent only 6 to 8 hours to discuss and come to conclusions about a subject of vital importance to the public as well as to the profession. Later it was found out by the minister in charge of the Medical portfolio who presided over a meeting held under the auspices of the Madras Branch of the All India Medical Licentiates' Association on 16th July last who mentioned "They had recently a committee to examine the honorary system. He was now told *that their representatives did not do their duty properly*. He would give them another chance. A Committee with two members of the profession in service and two members of the independent profession would be appointed to re-examine the question and he hoped the views of their association would be fully voiced in that Committee." We are authoritatively informed that the Government did not ask the existing medical association in Madras to choose their representatives in the committee now appointed to consider how far the honoraries could replace the paid staff in the state hospitals and the Government who through the then Minister in charge of the Medical Department acknowledged that "*their representatives did not do their duty properly*" have appointed the same member to represent the Licentiates, who was one of the two Licentiates in the previous committee referred to by the Minister in his speech. Is it not breach of faith and when the Government commits such a breach who is to give the judgment?

What the Government have failed to do may now be achieved by those who are appointed by the Government from amongst special grade or class of practitioners in service and outside by calling meetings of the medical practitioners from whom they were chosen, to know their views in the matter.

*The Medical Practitioner.*

### OPIMUM PRODUCTION INCREASES

Reports just published by the Imperial Hygienic Laboratory, Tokyo, disclose the figures of opium production in 1931. The cultivation area of opium during 1931 was decreased by 8 chobu over the figures of 1930, while the productive output of the former is greater by 2,952 kilograms than that of the latter, and the percentage of morphine contained was decreased by 1.4 per cent. The productive output of 1931 shows an increase of 33 per cent. per tan over the figures of 1930, the production per tan being 1,085 kilograms.



The increase in last year's productivity was due to the extremely good weather conditions during the period of cultivation as well as of milking, and partly to endeavours made by the cultivators extending over many years. The decrease of morphine contained is a phenomenon often seen at the times of exceptionally good crop. Opium in Japan is produced in eleven prefectures. The output in these prefectures is shown as follows :—

<i>Prefecture</i>		<i>Output (kilogram)</i>
Wakayama	...	7,647,645
Osaka	...	4,251,688
Nara	...	75,330
Kagawa	...	56,954
Kyoto	...	54,600
Hyogo	...	23,750
Osaka	...	16,884
Shizuoka	...	8,924
Hiroshima	...	270
Toyama	...	180
Ebaragi	...	70

## FIGHTING MALARIA IN CALCUTTA,

Corporation Health Officer's Address

IN ROTARY CLUB.

### HOW TO REMEDY THE EVIL

In Course of his address delivered before the Rotary Club Dr. T. N. Majumder, Health officer, Calcutta said :—

"The Calcutta Corporation has adopted since the beginning of this year the Mosquito Controlling Scheme. The Mosquito Control Gang is in full swing and is trying their utmost to reduce mosquitoes and malaria in the city. But considering the huge area of this city (30½ square miles) and the numerous breeding places of the mosquitoes, the task is confronted with many difficulties and it will take some time to tackle the problem successfully. As soon as the staff is fully organised, a thorough survey of the city regarding mosquitoes and malaria would be undertaken.

### WHERE THEY BREED

"Malaria occurs chiefly in the southern and south eastern wards of the city. The degree in which malaria is present in any place is best measured by the examination of the children for enlargement of spleen and for the presence of the malarial parasites in the blood. The spleen rate in Calcutta was found by Major Covell to be 4 p. c. after examination of about 9000 children of the age of 6 to 10 years, out of which about 2 p. c.



acquired their infection outside Calcutta. Ballygunge (W. 21), Taltola (W. 14) and Kidderpur (W. 24) recorded the highest figures 3, 2 and 3.3 p. c. respectively. Regarding blood examinations, about 3300 children were examined and malarial parasites were found in the blood of 2.6 p. c. Of these, 80 p. c. were Malignant Tertian Infections and 20 p. c. were benign Tertian infections.

#### WHO ARE AFFECTED

"The death rate amongst Mahomedans is much higher than amongst the Hindus. Malaria is two times more prevalent amongst the Mahomedans than amongst the Hindus. This is partly due to the fact that there is a large Mahomedan population in the malarial wards. Taking the general death rate of mortality in a year it is found that the Mahomedan death rate is  $1\frac{1}{2}$  times the general death rate, the Hindu death rate is  $\frac{3}{4}$  of the general death rate, the Indian Christian death rate is about  $\frac{1}{2}$  the general death rate and the Anglo-Indian and Non-Asiatic death rate is only 1-4 of the general death rate of malaria of the year.

"Females appear to be more susceptible than males, the death rate of females being double that of males.

#### CAUSE OF MALARIA IN THE CITY

"Anopheles Stephensi is the only malaria carrying mosquito of Calcutta. This is also the malaria carrier of Bombay, Madras, Delhi, and many other centres in India.

For its breeding places, it favours fresh water, preferably constantly renewed, and its larvae are to be found in wells, cisterns (whether of iron or masonry), garden tubes, fountain basins, disused pitch barrels, improperly graded roof gutters and terraces, disused tins, earthen ware and iron pots and any receptacle for storing water. It also breeds in any collection of water caused by leakage from water supply system.

"A Stephensi will breed equally well in dark places and in these fully exposed to sunshine and in any depth of water from a fraction of an inch to hundreds of feet. It has also a wide tolerance with regard to the temperature of water in which it breeds.

#### MEASURES NECESSARY FOR FIGHTING MALARIA IN CALCUTTA

1. "Every cistern is to be made mosquito proof. The cistern lids are to be kept closed and locked or preferably fixed with bolts and nuts. The cisterns should not be kept uncovered.

2. The removal of disused tins, earthen pots, vessels etc. is an important anti-malarial measure.

3. Masonry cisterns should be completely emptied once a week.

4. It should be seen that all other receptacles for storing water including garden tubs, fire buckets, do not breed larvae.



## CORPORATION STEPS

"Steps which are being taken by the Calcutta Corporation for fighting malaria :—

(a) Our staff has been distributed over Calcutta in such a way that weekly inspection of every breeding place in the city would be done.

42 Units (10 in Dist. I, 10 in Dist. II, 11 in Dist. III and 11 in Dist. IV.

(b) Blue-print maps of wards and blocks have been supplied and weekly routine of work has been shown on the maps.

(c) Daily and monthly report forms have been printed and are being used by the staff,

(d) Spleen-census and blood examination of at least 100 school children from each ward is being done. Record is being preserved in a special book for inclusion in the Annual Report.

(e) House to house inspection is being made by the mosquito staff and temporary breeding places are dealt with by them as stated above.

(f) In case of damaged and uncovered unfiltered water tanks, oil is applied by the staff,

(g) We are getting reports of malaria cases from Hospitals, Dispensaries Ward Health Associations as well as private practitioners.

## HOW CAN THE PUBLIC HELP

1. By reporting cases of malaria to the notice of the Health Officer.
2. By keeping the cisterns of their houses covered.
3. By removing disused tins and other vessels in which water may collect.
4. By allowing facilities of inspection to our staff.
5. By adopting a thorough treatment of Malaria by quinine plasmochin.

## PRESS PUBLICITY

1. By infusing the sanitary consciousness among the public on these subjects by printing articles, communiques etc. sent by the Publicity Officer of Corporation of Calcutta.

## MEDICAL AID

1. By sending accurate reports of cases to the Health Department so that preventive measures can be taken.
2. They can also urge upon their patients the necessity of adopting anti-malarial precautions.

## WARD HEALTH ASSOCIATIONS' HELP

1. By reporting malaria cases to Health Officer.
2. By inspecting the infective houses and explaining the necessary steps to be taken to the owners and occupiers.















